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ANECDOTES
OF BIRDS, REPTILES, AND
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THE EAGLES AND SHEEP.

ANECDOTES

OF THE

HABITS AND INSTINCTS OF BIRDS, REPTILES, AND FISHES.

BY

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PREFACE.

THE favourable reception given to the “ Anecdotes of Animals ” previously published, enables me to redeem the pledge contained in the preface to that volume, and to lay before my Readers those histories of Birds, Reptiles, and Fishes, which could not be contained in the former series.

S. LEE.



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ANECDOTES OF THE HABITS AND INSTINCT OF BIRDS.

BIRDS OF PREY.—VULTURES.

BIRDS are placed next to quadrupeds in the scale of creation; and foremost among them for strength, daring, and power, are those called birds of prey, which live exclusively on flesh. Of these, some feed by day, and others by night; but formidable as they are, with their rapid flight, their size, their strong beak and talons, and their piercing sight, they are not to be compared with what are called beasts of prey, in the ravages which they commit. Many of them are useful to man; and yet, paradoxical as it may seem, their submission to man's power, and their proofs of attachment to the human race, are of much rarer occurrence than among the denizens of the plain and forest.

Vultures are diurnal birds of prey, and while they are the feathered savages of the earth, and great consumers of putrid flesh, are sometimes of remarkable beauty, and, when not gorged with food, present an appearance of great majesty. Almost all have their head and neck destitute of feathers, and with many

the naked skin is variously and highly ornamented with fleshy developments called caruncles.

It is a much disputed point among naturalists whether Vultures discover their prey by scent or sight. The ancients, I believe, had no doubt that the former guided them, and many moderns (among whom is Mr. Waterton, one of the finest experimental naturalists we possess) agree with them. Mr. Audubon was the first to throw any doubt on this subject, and that in consequence of his own observations. Anatomy does not settle the question, as the organs of both senses are highly and equally developed; and, therefore, when a still more recent and equally accurate observer, Mr. Gosse, asserts that hearing, sight, and smell, are all brought into action in discerning their prey, I cannot but feel inclined to adopt his hypothesis. In illustration of each argument I now give some anecdotes which will support the different theories. A poor German emigrant, who lived alone in a detached cottage, rose from his bed after two days' confinement from fever, and purchased some fresh meat to make himself a little soup. Before he could do more than prepare his vegetables, and put his meat in water, the paroxysm of fever returned; and quite overcome by it, he was forced to return to bed. Two days elapsed in a state of helplessness and inanition, by which time the mass of meat had putrified. The stench became very offensive in the neighbourhood, and vulture after vulture was observed to descend to the cottage of the German, and to sweep round, as if they had tracked some putrid carcase, but failed to find exactly where it was. This led the neighbours to apprehend that the poor man lay dead in his cottage, as no one had seen him during the

last two days. His door was broken open; he was in a state of helpless feebleness, and the room was most insufferably offensive from some putrid substance which could not immediately be found; for the fever having deprived the German of his wits, he had no recollection of his uncooked mess. At last the pot lid was lifted, and the cause of the insupportable stench discovered. The sense of smell alone could have directed the vultures on this occasion; and an instance of the exercise of sight is supplied by Mr. Gosse in his own person. As he lay, perfectly still in a shallow pool or brook, when bathing, a vulture marked him and swooped down upon him, till its wings fanned his body, evidently supposing him to be drowned, and a fair prey. On coming close to him, the motion of his eyes, which followed its course, probably hindered it from alighting.

All three faculties were doubtless employed against a poor pig, which, being mortally wounded when trespassing on some private property, ran squealing and bleeding through the grass, and at length fell in the agonies of death. At the moment the animal was unable to rise, three vultures, from different directions, at the same time, descended upon it, no doubt attracted by its cries, and the scent of its reeking blood in the first instance, and sight indicating its locality.

So rapidly does decomposition take place in the warm climates frequented by vultures that they are of infinite service in clearing away that which would infect the air; and we see them hovering round villages and cities, perching on the roofs of those houses where death has just taken place, attending the chase, and every congregation of animal life, especially the battle field. There is one called the Egyptian Vulture, which

is a remarkable-looking bird, and is found all over Africa.

We are apt to take a disgust to those creatures which live on carrion, who are often so eager for prey that they will pounce upon it before it is dead; and this bird certainly aids the unfavourable impression by its sly, sneaking, and cruel look. Its long wings give it great buoyancy of flight; but, like all other vultures, when it has made its meal, it is stupid and sluggish. One of its names is "Pharoah's chicken," having been a sacred animal among the ancient Egyptians, and frequently sculptured on their monuments. Mr. Bruce was of opinion that it is the "Racham" of Scripture, and it still bears the name of "Rachamar" in some parts of the East.

Another odious-looking vulture, but of elegant flight, used to frequent Cape-Coast when I was there. It has a dark-brown plumage, approaching to black; and I should confirm the name of "turkey-buzzard," given to it by European residents, had not naturalists confined the locality of that bird to the New World. Great precautions were required to keep it out of the castle kitchen, near which it hovered with greedy-looking eyes, darting in if it were unwatched for a minute, and stealing into the passages, to purloin the meat which was hung up in them to become tender. Its noiseless approach and rapid action made the negroes regard it with superstitious reverence; but I could not tolerate its vicinity.

When they had eaten as much as they could, these vultures flew slowly and heavily to perch upon the guns placed round the ramparts, whence I knocked them off, whenever I could get at them, and to which they did not make any resistance. One, in particular, insisted

on coming close to my bed-room window, from which I constantly dislodged it with a pole; for when gorged, it had not the sense to avoid a spot from which it was so incessantly disturbed.

The King of the Vultures is the most beautiful of its tribe: its head and neck are coloured with the most brilliant scarlet, orange, and violet; and these emerge in exquisite contrast from the grey ruff which encircles its neck, while the rest of its plumage is fawn-colour and black. It walks in a leaping manner, and is said to become tame on some occasions. That lover of animals, and excellent friend to all beings, human or otherwise, Dr. Neill, of Canon-Mills, Edinburgh, possessed one which received company in his unique garden without being alarmed, taking caresses as if they were due, but not giving any sign of affection, even for its worthy master.

This bird has received its royal name from the fact, that when a number of other vultures are assembled round their prey, if one or more of this species should be present, they all wait till majesty is served before they begin, which they do with an eagerness which shows there must be some powerful motive to restrain them—probably a fear of superior strength and courage. Mr. Byam, in his *Travels*, describes such a scene in the following manner:—"One day, having lost a mule by death, he was dragged up to a small hill, not far off, where I knew, in an hour or two, he would be safely buried in vulture-sepulture. I was standing on a hillock, about a hundred yards off, with a gun in my hand, watching the surprising distance that a vulture describes his prey from, and the gathering of so many from all parts, up and down wind, where none had been seen

before, and that in a very short space of time. Hearing a loud, whirring noise over my head, I looked up, and saw a fine large bird, with outstretched and seemingly motionless wings, sailing towards the carcase that had already been partially demolished. I would not fire at the bird; for I had a presentiment that it was his majesty of the vultures; but beckoned to an Indian to come up the hill—and, showing him the bird that had just alighted, he said, ‘The King of the Vultures; you will see how he is adored.’ Directly the fine-looking bird approached the carcase, the *oi polloi* of the vultures retired to a short distance; some flew off, and perched on some contiguous branch; while by far the greatest number remained, acting the courtier, by forming a most respectful and well-kept ring around him. His majesty, without any signs of acknowledgement for such great civility, proceeded to make a most gluttonous meal; but, during the whole time he was employed, not a single envious bird attempted to intrude upon him at his repast, until he had finished, and taken his departure with a heavier wing and slower flight than on his arrival; but when he had taken his perch on a high tree, not far off, his dirty, ravenous subjects, increased in number during his repast, ventured to discuss the somewhat diminished carcase; for the royal appetite was certainly very fine. I have since beheld the above scene acted many times, but always with great interest.”—*Byam's Central America*.

The largest of all the vultures is also an inhabitant of the New World, and is a native of the Andes. Its birth-place would alone convey an idea of something grander than ordinary creatures, and it has been said to personate the Roc, or Rukh, of eastern fable; modern

science and judicious travellers have, however, brought it to a level with human comprehension, and Baron Humboldt first ascertained its actual size. He says, even he "considered it as a winged giant, invested as it was with the mystery of solitude, sitting on rocks close to the limits of eternal snow; and nothing but the measurement of the dead bird convinced him of the reality of its dimensions." It brings forth its young at a height of from ten to fifteen thousand feet above the level of the sea; generally associating in pairs, but on rare occasions, in large companies. It has the usual flight of vultures, that is, it only flaps its wings when rising; it, however, frequently lowers its head and neck, and glides, rather than flies, for hours at a time, ascending and descending in wide circles and spires, in the most stately manner.

Mr. Darwin declares, that the stories of condors carrying away children are not true; but they certainly attack goats, lambs, vicunhas, lamas, and even human beings. They are sometimes taken with the lasso, and also with traps. The natives, in some parts, make a peculiar shout, which instantly causes them to spread out their wings when they are at rest; an effect which I have witnessed, as a friend of mine, who had been much in South America, used frequently to imitate this cry before one, which was in the Jardin des Plantes, in Paris, and it invariably responded by spreading out its enormous organs of flight.

Mr. Byam tells us that the condor flies straight to its prey, and thinks that it is guided by sight; but he is of opinion that all vultures are directed by this sense. Other birds follow it because they know it is going to its prey. It will drive away the largest dogs, and is

more powerful than the eagle; it frequently measures fifteen or sixteen feet from the tip of one wing to the tip of the other, even when not stretched to the utmost, and four feet from beak to tail; its legs are as thick as a man's wrist, and its middle claw seven inches long. It is easily knocked over and secured when gorged; for it must run, or be on an elevation, in order to take flight. One blow of its beak would kill a man, but it dare not attack him when his eye is upon it. If an animal be bogged, it gets at it under the tail, tears long strips away along the under part, and soon gets into the body, and buries itself within.

Mr. Byam's own adventure with condors is thus related: "After a weary climb up a steep mountain, trying to kill a good specimen, out of some condors which were reposing on a castle-looking rock, after a plentiful meal upon a poor horse which had sunk exhausted in the pass below, I found myself on the said rock, standing alone with two fine specimens dead at my feet, but the numerous survivors seemed disposed to be vindictive, and I had only taken up the hill with me, by mistake, a couple of the swan-shot cartridges. Standing alone on the rock, my servants in the pass below got alarmed, and seeing my powder-horn and shot-bag on the side of the road, they knew I must be without ammunition, and hastened up to me; I must say I was glad of it, for the birds were flying so close to my head that I was obliged to fire off the two barrels I had left; one of them being fired so close to a condor that the shot made a hole like a ball through him, and I was actually obliged to make use of them before my servants brought up my ammunition. A few quick shots soon dispersed them all."

Mr. Darwin speaks of two vultures of South America, called the Carrancha, or Caracara (*Polyborus*), and the Gallinazo, or Chimango (*Cathartes*), which will feed together on the same carcase, but are not friends under any other circumstances. When the former is quietly seated on the branch of a tree, the latter flies up and down in a semi-circle, trying each time to strike its relative, which only bobs its head. They are both very cunning, and steal eggs, and will kill wounded animals. If a person lie down to sleep in the open air, when he awakes he will see one of these birds on each surrounding hillock, watching him with an evil eye.

A vulture called Thuru in Chili is said to have a habit of raising its head and bending it, with its beak wide open, till the crown touches the back, and several combine and attack the Gallinazo till it disgorges its lately-swallowed prey.

The black vulture of the United States is thus described by Wilson: "A horse had dropped down dead, and was dragged up to Hampstead and skinned. I ventured cautiously within thirty yards of the carcase, where three or four dogs, and twenty or thirty vultures were busily tearing and devouring. The dogs being sometimes accidentally flapped with their wings, would growl and snap at them, which would occasion them to spring up for a moment, but they immediately gathered in again. I remarked that they frequently attacked each other, fighting with their claws or heels, striking like a cock with open wings, and fixing their claws in each other's heads. The females, and I believe the males likewise, made a hissing sound, with open mouth, exactly resembling that produced by thrusting a red-hot poker into water, and frequently a snuffing, like a dog

clearing his nostrils, as I suppose they were theirs. As they were often disturbed by the dogs, I ordered the latter home, and my voice gave no alarm to the vultures. As soon as the dogs departed, the vultures crowded in such numbers that I counted, at one time, thirty-seven on and around the carcase, with several within, so that scarcely an inch of it was visible. Sometimes one would come out with a large piece of the entrails, which in a moment was surrounded by several others, who tore it in fragments. Sometimes I observed them stretching their necks along the ground, as if to press the food downwards."

The Vulture of Europe (*Vultur fulvus*) is the Griffin, the Lammer Geyer, and the Bearded Griffin, from having a tuft of Bristles, which hangs down on each side of the lower beak, or mandible, besides which three appellations it has a multitude of others. Its home is among the Alps, where it frequents the highest summits, and it also extends its flight to the mountains of North Africa and Western Asia. It is quite as large as the largest eagle, and is equally covered with feathers. Its claims to be considered as a vulture, however, are easily traced in its beak and talons, which are not as powerful as those of the eagle; its eyes, also, are wholly wanting in that keen and daring expression which distinguishes the king of birds. It feeds on dead animals, but if much pressed by hunger, attacks living, but weak animals, such as hares and rabbits, sickly lambs, and kids. Stories are told of its having driven more powerful prey to the edge of some precipice, down which it forces them, and descends afterwards to devour them. It has been said to attack even men, and many fearful legends in Switzerland tell of

its power and voracity, all of which, however, have probably been exaggerated.

FALCONS.

THE large genus named Falcon has two divisions, according to naturalists, the first of which takes precedence, not from its size or power, but from its usefulness to man in catching other birds for him. Hence the term "noble birds of prey," as applied to its qualities in this respect, and from which it derives its chief interest; although there are instances of many individuals evincing great sagacity and affection, and we are told that on the Pampas they are very tame, even going close before travellers, and staring at them with their large black eyes; they will, however, attack the poor horses which have sore backs.

Now we have substituted other modes of hunting, falcons are but little prized, although they must always be admired for their extreme beauty and daring disposition. Besides this, there is a sort of romance attached to them, owing to the histories of other times, when the fairest and the noblest of the most civilized countries joined in the sport of which they were the principal promoters. In those days falconry was elevated into a science, and enormous sums were expended on the training and keeping of these birds, concerning which many quaint, but verbose, technical treatises are still in existence.

The most esteemed of all falcons was the Peregrine, so named because it appears to be a bird of passage in

all the northern countries of the globe. So little is it afraid of man that it frequently makes great havoc among our London pigeons. Mr. St. John tells us he has, in Scotland, seen one chase a golden plover for ten minutes, which turned and doubled to elude its pursuer, but the falcon was in no hurry, and continued the chase, although the plover was sometimes high above it, and at others swept rapidly round a bush or headland, till at last, being perfectly exhausted, the plover fell a prey to the more deliberate enemy. A tame one belonging to the same gentleman, attacked every dog and person to whom it took a dislike, and was so great a destroyer of poultry that he was obliged to chain it up in the kitchen garden. The usual flight of the falcon is about sixty miles an hour, but it doubles that rate when swooping upon its prey. Few birds of even larger size can withstand it; but the heron is less easily conquered than others, on account of the height to which it flies, for the falcon must descend upon its prey. When, however, it manages to get the uppermost in chasing a heron, it has been often impaled upon the long sharp beak of the latter, which the former bird is able, from the length of its neck, to twist behind its wing, and present upright to its enemy.

The only bird of prey which is known to sing agreeably, is a falcon which inhabits Southern Africa.

E A G L E S .

In the same genus, *Falco*, or Falcon, we find those birds which may be more properly compared with the feline

tribe than any others; they being in the air what our lions and tigers are upon earth, killing and devouring everything which they can seize upon, if urged by hunger. They are called "ignoble birds of prey," because they are not usually trained to assist in the chase. Their piercing sight is evident to all who look at their brilliant eyes, protected by an overhanging brow. When at rest, they are calm and dignified; but the quick glance of their eyes leads to the constant expectation that they will suddenly burst into irresistible fury; and their powerful, hooked beak, and strong, sharp talons, shew that escape from them is almost hopeless. They chiefly feed on living prey, but have no objection to a little carrion, if convenient. They usually slaughter their victims with exulting cries, and sometimes carry them living to their nests, where they tear them to pieces before the eyes of their young, as if they were teaching them the best way of carving their food. When gorged, they are easily taken and knocked down, like vultures.

An imperial eagle has been known to go out with the harriers, and snatch the hare from them when only three or four hundred paces in advance of the pack; and many other stories evince their courage. Instances are given of their taking away infants, which have been doubted; but I do not see, if they are left exposed, why they should not be captured, as well as fawns, lambs, and pigs. It is an old story, nevertheless it passes for a fact, and is told by Martin, in his Description of the Western Islands of Scotland, of an incident which happened to "a native of the Isle of Skye, called Neil, who, when an infant, was left by his mother in the field, not far from the houses on the north side of Loch Portrie, and an eagle came and carried him away in his talons, as far as the south side of

the Loch, and there laid him on the ground. Some people that were herding sheep there perceived him, and, hearing the infant cry, ran immediately to his rescue, and, by good Providence, found him unhurt by the eagle, and carried him home to his mother."

Eagles are found in most parts of the world, especially in mountainous countries; and all savage nations regard them as a type of strength, courage, and majesty adorn themselves with their feathers, and call their bravest men by their name.

Among the few instances of eagles being trained for hunting, the best examples are furnished by the Tartars, who teach the royal or imperial eagle to catch foxes, antelopes, and even wolves. There are some instances of attachment formed by these birds towards the human race, but they are not of frequent occurrence. A gentleman residing near Belfast had one of the above species, which had been taken when quite young from the nest, and had become not only quite tame, but even attached itself to its master. When allowed to be at liberty it did not offer to go away, was fond of being caressed, and returned the moment it was called if it had gone to any distance. It does not, however, always require to be taken young in order to be domesticated; and in that interesting book on birds, written by the late Dr. Stanley, bishop of Norwich, we read of a large golden eagle which had reached maturity when it was secured, and remained firmly attached to the place where it lived, though always left perfectly at liberty. The only precaution used was to cut its wings when first caught, but when they grew again the operation was not repeated, and it then often absented itself for a fortnight or three weeks at a time, and faithfully re-

turned. It generally perched, in preference, on a large apple-tree, and chiefly ate crows which were shot for it; for though it often attempted to procure these birds itself, they turned too rapidly, and were too agile for it, till at last it gave up the attempt, and only sat and eyed them wistfully when they flew over its head. When not properly supplied with food it seized upon young pigs. It never molested children, but once attacked its master violently because he had not brought it the food it had been accustomed to receive from his hand. After ten or twelve years of domesticated life it was killed by a ferocious mastiff. It must have been a long battle, and well fought on both sides, for the dog was so badly wounded that it died almost immediately afterwards.

The White-headed Eagle is fond of fishes, and sits upon some lofty pinnacle by the sea-shore watching those birds which also feed on fish; and when they have been successful in taking prey from the waters, it drops down upon them like an arrow, and forces them screamingly to resign their booty, which it contrives to catch in its own beak before it falls again into the water. They, however, provide their own meals when they find shallow places, and they will consume a bucket full of fishes in the day.

It is worthy of remark that in those countries which are also frequented by vultures, these birds will wait for their repast while the eagles are making theirs, nor attempt to fall upon it till the eagles have done, just as the inferior species do for the king of the vultures.

The formidable Harpy Eagle is a native of South America, and is remarkable for having a beautiful crest, formed of the feathers at the back of the head and neck,

which it erects or depresses at pleasure. It is the most powerful of all eagles, frequents the thickest forests, and attacks men and monkeys. Captain Flinders, when ashore once in New South Wales, with some of his officers, observed two eagles, probably of this species, one of which darted towards them as if to pounce upon them, but suddenly checked itself. He explained this by supposing that the bird, unaccustomed to see men like themselves, supposed them to be a party of kangaroos on their hind legs, for they are accustomed to kill and devour these animals.

There is a well-known story of a weasel which had been caught by an eagle, so ably contriving to bite its antagonist while in the air, that the eagle fell from loss of blood, and released its victim. It has not, however, been so often recorded, that a cat and an eagle had a battle which lasted some minutes, puss struggling so violently, and yet clinging on with her claws, that the progress of the bird was impeded, and it descended to the ground, where the fight continued till some persons, who watched them, secured both combatants.

Eagles rise in the air chiefly to look for prey in an extensive range of country, for this prey is chiefly birds of low flight, and whatever quadrupeds they can subdue. In an eyrie, or eagle's nest in Germany, the skeletons of 300 ducks and forty hares were found; and these, be it remembered, were only those animals which could be carried to the nest, and not the larger kinds, which the eagles must prey upon where they are killed.

An eagle had been caught in a vermin trap, had drawn the peg by which the trap was fastened to the ground, and had flown away with it. Nothing was known for some weeks of eagle or trap, till one day a

gentleman, seeing some strange object hanging from the branch of a tree, went to examine what it was, and found the poor bird hanging by its leg, which was firmly held by the trap. The chain and peg had got fixed among the branches, and the poor eagle had died miserably from starvation in this position, suspended by the foot. Eagles are very fond of martens and wild cats, and a tame eagle killed all the cats in the neighbourhood, sitting quietly, and as if unheedingly, till the animal was within reach of the place where it was chained; then, planting one foot firmly on the loins, and the other on the throat, nothing more would be seen of it except the skin quite empty, and turned inside out.

Mr. St. John, from whom I have derived the last two anecdotes, also relates an adventure of his own in these words. "On a very dark morning I sallied out with Malcolm to take a shot at the eagles, and at last I was esconced in a hiding-place (near the dead body of a sheep) which gave me hardly room to stand, sit, or lie. It was scarcely grey dawn when a bird with a slow, flapping flight passed, and alighted out of sight, but near, for I heard him strike the ground, and my heart beat faster. What was my disappointment, when his low, crowing croak announced a raven; he hopped and walked suspiciously round the sheep, till, supposing the coast clear, he hopped upon the carcase, and began with his cut and thrust beak to dig at the meat. Another raven soon joined him, and then two more, who, after a kind of parley, were admitted to their share of the banquet. They suddenly set up a croak of alarm, stopped feeding, and all turned their knowing eyes in one direction. At that moment I

heard a sharp scream, but very distant. The black party heard it too, and instantly darted off, alighting again at a little distance. Next came a rushing noise, and the monarch of the clouds lighted at once on the sheep. He quietly folded up his wings, and, throwing back his magnificent head, looked round at the ravens, as if wondering at their impudence in approaching his breakfast; they kept a respectful silence, and hopped further away. The royal bird then turned his head in my direction, his bright eye that instant catching mine, as it glanced along the barrel of my gun. He rose, I drew the trigger, and he fell quite dead six yards from the sheep. As one eagle is always followed by a second, I remained quiet, in hopes that his mate was not within hearing of my shot. I had not waited many minutes when I saw the other eagle skimming low over the brow of the hill towards me. She did not alight at once, but her eye catching the dead body of her mate, she wheeled up into the air. I thought she was lost to me, when presently I heard her wings brush close over my head, and she wheeled round and round the dead bird, turning her head downwards to make out what had happened. At times she stooped so low that I could see the sparkle of her eye, and hear her low, complaining cry. I watched the time when she turned up her wing towards me, and dropped her actually on the body of the other. She rose to her feet, and stood gazing at me with a reproachful look, and would have done battle, but death was busy with her, and as I was loading in haste she reeled, and fell perfectly dead."

HAWKS—KITES (*Milvus*).

ALTHOUGH hawks and kites are objects of great terror to their smaller brethren, they are, in reality, of a cowardly disposition; and although, from their depredations coming so immediately before our eyes in all parts of the country, we are apt to think them cruel, they have given many proofs of an affectionate and docile disposition. They are smaller than any of the birds of prey of which I have already spoken, and their weapons of offence and defence are less formidable; but their wings are very long in proportion to the size of their bodies, which gives them great power of flight, and they are able to mount to a great height in the air. They do not at once rush upon their prey, but come down in wide, circular sweeps, skim over it, and bear it away in their talons. They eat the smaller animals, such as birds, mice, rats, and even reptiles. The common kite is a most useful scavenger, and Dr. Carpenter tells us, that in Turkey they assemble on the tops of houses, come down when summoned by a whistle, and clear the ground of any carrion which may there be collected. Some of the species are very destructive to young game, and no one can see the alarm excited in a dove-cote when one is approaching, or the agonized terror of a hen when she gathers her chickens under her wings, without feeling sure that a formidable enemy is approaching. A little resistance, however, will frighten the hawk away, and the hen often assumes a bold front against the destroyer.

The Sparrow Hawk is the most audacious of all, and as instances of his impudence, Mr. St. John tells us, that one of them pursued a pigeon through his "drawing-room window, and out at the other end of the house through another window, and never slackened its pursuit, notwithstanding the clattering of the broken glass of the two windows as they passed through." A still more remarkable proof of audacity occurred to the same gentleman, who one day found "a sparrow hawk deliberately standing on a very large pouter pigeon on the drawing-room floor, and plucking it, having entered in pursuit of the unfortunate bird through an open window, and killed him in the room."

A Mr. Clarke, of Suffolk, places the sparrow hawk in a much more amiable light, in nearly the following words:—"About three years since, my brother purchased a young sparrow hawk, and reared it himself. This was rather hazardous, as he at the same time had a large stock of fancy pigeons, which, in consequence of their rarity and value, he greatly prized. It seems, however, that kindness and care had softened the nature of the hawk, or the regularity with which he was fed, rendered the usual habits of his family unnecessary to happiness; for, as he increased in age and size, his familiarity also increased, leading him to form an intimate acquaintance with a set of friends who have been seldom seen in such society. Whenever the pigeons came to feed, which they often did, from the hand of their almoner, the hawk used also to accompany them. At first the pigeons were shy, but by degrees they got over their fears, and ate as confidently as if the ancient enemies of their race had sent no representative to their banquet. It was curious to observe the

playfulness of the hawk, and his perfect good nature during the entertainment; for he received his morsel of meat without any of that ferocity with which birds of prey usually take their food, and merely uttered a cry of lamentation when the carver disappeared. He would then attend the pigeons in their flight round the house and gardens, and perch with them on the chimney-top, or roof of the mansion, and never failed to do so early in the morning, when the pigeons always took their exercise. At night he returned with them to the dove-cote; and, although for some days he was the sole occupant of the place, the pigeons not having relished this intrusion at first, he was afterwards a welcome guest there; for he never disturbed them, even when their young ones, helpless and unfledged as they were, offered a strong temptation to his appetite. He seemed unhappy at any separation from the pigeons; and invariably returned to the dove-house after a few days, purposed confinement in another abode, during which he would utter most melancholy cries for deliverance; but these were changed to cries of joy on the arrival of any person with whom he was familiar.

“All the household were on terms of acquaintance with him; and there never was a bird who seemed to have won such general admiration. He was as playful as a kitten, and, literally, as loving as a dove. He, however, was still a hawk, for a neighbour sent us a very fine specimen of the smaller horned owl, which he had winged. After tending the wounded limb, we thought of soothing the prisoner's captivity by a larger degree of freedom than he had in the hencoop which he inhabited. No sooner did the hawk get sight of him than he fell upon the poor owl most unmercifully, and

from that instant, whenever they came in contact, a series of skilful and courageous combats commenced. The defence of the poor little owl was admirably conducted; he would throw himself upon his back, and await the attack of his enemy with patience and preparation, and, by dint of biting and scratching, would frequently win a positive, as he often did a negative victory. However, when the wing strengthened, the owl took an opportunity of decamping.

“The fate of the hawk was then soon accomplished; for he was shortly after found drowned in a butt of water, from which he had once or twice before been extricated, having summoned a deliverer to his assistance by cries of distress. There was great lamentation when he died; and that portion of the dove-cote in which he was wont to pass the night, was for some time unoccupied by the pigeons, with whom he had lived so peaceably, even during his wars with the owl.”

It is the Gos Hawk which destroys so much game; concerning which bird Dr. Stanley gives the following remarkable story. In the spring, a gentleman walking in some fields in Yorkshire, saw a small hawk attempt to fly off with some prey it had just pounced upon, but was evidently prevented by the weight of its captive from rising to any height above the ground. It was pursued by a hare, which, whenever it came within her reach, attacked it with her paws, and at last succeeded in knocking it down, when it dropped its prey. At this moment the gentleman ran forward, and the hawk and its pursuer both made their retreat. Upon his searching the spot where the prey had been dropped, he found it to be a leveret, which at once explained the cause of the parent hare's gallant attack on the hawk. It was wounded on

the side of the head, and was bleeding, but the gentleman left it in a furrow, hoping that the wound might not prove fatal.

Jays will fight singly with the hawk, and assembling in numbers, attack and worry it by all the means in their power, as if to revenge themselves for the numerous murders committed by it on their brethren.

THE SECRETARY BIRD (*Gypoggeranus*, or *Serpentarius*).

A VERY remarkable bird, first known in Southern Africa; but two more species of which have been discovered—the one near the Gambia, and the other in the Philippine Islands; claims our notice, for its preying chiefly on reptiles: so expert is it in the destruction of these creatures, that the French transported a number of them into Guadaloupe, where they were most successful in making havoc among the numerous serpents of that country. As a proof, however, that sudden changes are not advisable, the disappearance of the serpents caused such a superabundance of rats, that the colonists would have been glad to re-admit their ancient enemies, and trust to the gradual disappearance of all noxious animals before the continued presence of man, which seems to be a law of nature.

The *Serpentarius* has been also named the “Secretary,” by the Dutch, in consequence of the loose feathers, at the back of the head, looking very like a pen stuck behind the ear. It is armed with spurs upon its wings, with which it strikes its prey till the reptile is exhausted,

and then finishes it by splitting open its skull with its foot. Its peculiar gait, to which no other word will apply, except *debonnaire*; its long, thin legs; its black thighs, and the whole contour, so strongly remind me of certain remnants of a past age, which I used to see in my youth, that I cannot avoid mentioning the impression. The grey feathers of the body are like the bloom-coloured coat, the loose feathers resemble the grey hair combed back; and it requires no great effort to fancy the white waistcoat, black satin continuations, and silk stockings in the rest of the bird, and thus transform it into a beau of the past century, preserving his costume even in the present, in despite of the innovations of fashion.

Mr. Pringle, whose interesting "Narrative of a Residence in South Africa" is but too little known, says, "that the presence of this bird is a blessing; for it destroys a vast quantity of insects and reptiles. These birds always kill their prey before swallowing it. Whether the Secretary meets with a serpent or a tortoise, he invariably crushes it under the sole of his foot; and such is the skill and force with which he gives the blow, that it is very rarely that a serpent, of an inch or more in diameter, survives the first stroke. When he meets with a serpent that is large enough to oppose a long resistance to him, he flies off with his prey in his beak, to a great height, and then dropping it, follows it in its descent with wonderful rapidity, so as to be ready to strike it when it falls stunned on the ground. In general, these birds exhibit no fierceness, and they are easily domesticated."

An eye-witness of a combat between the Serpentarius and its prey, thus describes it: "He was one day riding, when he observed a Snake-eater, while on the wing,

make two or three circles at a little distance from the spot on which he then was, and suddenly descend to the ground. He found the bird watching and examining some object near the spot where it stood, which he continued to do for several minutes. After that it moved, with considerable apparent caution, to a little distance, and then extended one of its wings, which it kept in continual motion. Soon after this, the observer saw a large snake raise its head to a considerable distance from the ground, which the bird had seemed to expect, and wait for. At the moment the snake reared its head, it instantly struck a sharp blow with the end of its wing, by which the snake was knocked flat on the ground. The bird, however, did not appear confident of having slain its enemy, or gained the victory, but kept its eye fixed on the reptile for a short time; when the snake, reviving again, lifted up its head, and the bird, as before, repeated the blow. After this second blow, it appeared to gain more confidence; for almost the moment it was inflicted, it marched boldly up, and struck at the snake with its feet; after which, finding it disabled, though not quite dead, it rose almost perpendicularly to a very great height, taking its prey in its beak, when it let the reptile drop; and as it fell with great violence to the ground, the Snake-eater seemed satisfied, and accordingly followed it to the earth, and commenced its meal."

NOCTURNAL BIRDS OF PREY.—OWLS (*Strix*).

THE nocturnal birds of prey are owls, than which no family presents greater beauty or sagacity, greater

adaptation for its peculiar habits, or is guilty of more depredations. The softness and fineness of their plumage almost prevents their approach from being heard; and as they are not remarkably swift there is no rush of air to betray them. The sight of their large round eyes is very imperfect by day, but they see with great accuracy by night. Their hearing is always acute, and they are the only birds which possess an external apparatus round the orifice of the ear.

From their nightly habits, their noiseless flight, their strange discordant cries, and their melancholy hootings, they appear always to have been objects of superstition; and numerous are the legends attached to them in all the countries which they have inhabited. One of these is the opinion that they look in at the windows of those who are appointed to die, and tell them of their coming death; an instance of which occurred to myself. I was nursing and watching over a dear invalid for a long period, and sometimes, when quite exhausted by fatigue and anxiety, I slept for a few nights in a separate room, to repair my strength. The house in which I then lived was in the country, far away from any high trees, or other buildings, and having no outer offices of its own likely to afford refuge to owls. Moreover, it was close to a road which was frequented by day and by night. My bed-room was at the top of the house; and on one occasion my rest was disturbed for several nights by strange noises in the chimney, chiefly consisting of groans, cries, and murmurings. The chimney was searched, and no sign of any living thing was to be detected. The nurse, the servants, were all convinced that these extraordinary sounds foretold the dissolution of the sick lady, and it was with the greatest difficulty

I could prevent the circumstance from reaching her ears. One night, as I lay awake, with the curtains both of bed and window undrawn, that I might enjoy the flood of moonlight which brightened the room, a pale bird perched upon the window-sill, and made some of the noises which I had heard in the chimney. The mystery was explained. I stole very softly to the window, and beheld a white owl, with its eyes glaring into the room, but which flew away when I gently opened the window, in the hope that it would come in. With some feeling of exultation the appearance was told the next morning to the attendants of the sick room; but I was soon checked by the declaration that death was now more than ever certain, and the above superstition was brought forward. The recovery of the sufferer was a joyful contradiction; but so fond do people become of a cherished omen, that, although there was no want of feeling in the above parties, I believe they were disappointed.

In common with other birds of prey, owls possess the power of rejecting from the stomach that which they cannot digest. Mr. Waterton, who erected a refuge for owls over his ancient gateway, which has stood two thousand years, and to this day contains the bullet fired into it by one of Cromwell's army, at the precise moment in which the Mrs. Waterton of that time was hastily closing the said gate against the besiegers, tells us that his servants predicted sickness and sorrow when the owls were first harboured there; but he gravely assured them he would be responsible for all the calamities which they anticipated, and they have lived there in peace ever since. He informs us that the parent birds will bring a mouse to their young every

twelve or fifteen minutes. The ejected food comes up in the form of pellets, and each pellet contains from two to seven skeletons of mice. Sixteen months after the erection of the owl chamber, more than a bushel of pellets was gathered from it, and these calculations will give some idea of the enormous number of mice which they will consume, and which must make them a blessing to all who possess stacks and barns for grain.

A pet owl of mine used to inhabit a fast-withering old apple-tree in my father's orchard, where I had placed him with one of his wings cut, and as he could not go far, he was plentifully supplied with food. Occasionally he caught a small bird for himself, and feathers would drop upon the ground underneath. This was observed by a certain impudent, eccentric cat, also belonging to me, who would sit under the tree watching for an occasional morsel; and it was laughable to see the two. The odd gestures in which owls always indulge in the light had all the appearance of his making grimaces at the cat, and she remained with her bright eyes fixed upon him, never offering to run up the tree, and he never descending when she was there, as if they had made a mutual compact to avoid a quarrel.

Although the owl often bit me, I was very fond of him; and therefore was much grieved when one day he was found dead upon the tree, a circumstance for which we could never find any reason. We lived in a very out of the way spot, so no bird-stuffer could be found, and certainly no bird's eyes; nevertheless, I gladly accepted the offer of a friend to stuff him for me, and, instead of eyes, two large, highly-cut, jet beads were substituted. The effect was rather ludicrous, but the

favourite was placed on a bracket in the dining-room, and often looked at and lamented. On one of these occasions the feathers of the bird moved; and on going close to it to ascertain the cause, it was found to be full of maggots. In a few moments, eyes and all were thrown into the neighbouring river, where they soon disappeared with the current.

Mr. Darwin speaks of a small owl, which either burrows a residence for itself, or takes advantage of the ready-made habitations of the Biscacha, of South America, of which it is, consequently, a constant associate; thus forming a curious feature in the history of birds. When pursued, it has a remarkable way of turning round and staring those who follow it in the face. Its frequent food is small snakes.

A tawny owl which lived in Mr. St. John's garden, and entirely cleared it of mice, would also kill rats, ate out of the hand, answered the call of children, tore crows and gulls to pieces, and hid what it did not require at the moment for a future meal.

Musicians have given the unpleasing notes of owls to the keys of A sharp and B flat; but there are certain screeches which can hardly be reduced to any musical scale. In sacred writings it is used as one of the images of desolation: in Leviticus it is called an unclean bird, and there is no end to its appearance among profane poets, ancient and modern. Witches said to fly about in the shape of owls, and were thus present at all the incantations performed by the Germans. Wickedness was ascribed to the birds themselves, because they ate so many shrew mice; these pretty, harmless little creatures being in former times supposed to be venomous, and to have the power of

paralysing the limbs of those whom they might venture to infest.

White owls are said not to hoot, but Mr. Broderip tells us, in his charming *Zoological Recreations*, that they scream horribly, for which I have already brought my own testimony; they also snore and hiss tremendously.

The large, horned owl, sometimes called the Grand Duke, is one of the most beautiful birds that can be found, with its black and brown plumage, and the extreme majesty of its deportment. One remarkable feature in owls is that they are excellent sitters for their portraits; on which occasions I have had them before me for an hour without moving, the Grand Duke among others, his eyes now and then alone betraying his consciousness that I was close to him.

It is related, that a certain Tartar, Jenghis Khan, who founded the Mogul and Kalmuck empire, "had taken refuge from his enemies in a thicket. They followed with hot pursuit, and came straight upon his hiding place; but there sat a guardian cherub, in the shape of this noble bird; and they, believing that it would never rest quiet if any man were hidden near, passed by with unbloodied scimitars. In the silence of the ensuing night, the Khan made his way to his delighted followers, told them the cause of his safety, and filled them with a reverential love for the bird, that became national." Mr. Brown gives the same anecdote, and ascribes it to the Snowy Owl; these last-mentioned owls are great fish-catchers, and dart into the water to seize their prey with their claws. A pair considerably diminished the number of gold and silver fishes kept in a pond; and it has been conjectured, that as fishes are

attracted by light, the large, round, luminous eyes of the owls, which shine in the dark, cause the fishes to rise to the surface.

INSESSORIAL BIRDS (*Insessores. Passeres*).

A LARGE assemblage of birds, of apparently different kinds, are included in the above appellation. They have different forms, different plumage, different flight, different habits, different kinds of food—from carrion and reptiles to the minutest insects and grains; and yet they have a sufficient resemblance among themselves, to justify naturalists in throwing them all into one large group. Their peculiarly firm manner of perching when asleep, has obtained for them one of their names; and this, and the unfledged condition of all their young when they are hatched, are common and invariable characters.

Almost every naturalist has endeavoured to subdivide this numerous collection of birds into something like a serial order; and no two plans are exactly alike. I shall merely select examples from the different genera which are consonant with my design.

SHRIKES (*Laniadæ*).

ALL these birds rapidly and unequally utter the most piercing cries, and imitate the songs of other birds. Generally speaking, they are fierce in their dispositions, and attack small quadrupeds and other birds, watching

quietly for the proper moment, and then suddenly darting upon them from some hidden place. One of the most interesting among them is the Butcher Bird, also called the Sentinel, because it used, by loud screams, to announce the approach of the falcon to those who were engaged in sport; for which purpose it was fastened to a stake in the ground, and an artificial shelter placed over it, in case the falcon should be quicker than anticipated, and destroy the Sentinel.

Shrikes are very courageous and cruel, and have a curious habit of impaling their larger prey on thorns, from whence they tear it off in strips, in the manner of hawks. Even when kept in a cage, they stick it between the wires, and devour it in the above fashion. Other birds are very much alarmed at the approach of a Shrike; and it has been known to fly up to those in cages, drag them through the bars, and eat them. They will attack even rabbits, and kill much more food than they can eat, as if for the pleasure of doing so. On finding many grasshoppers stuck upon thorns, it was suggested that they were put as baits to other birds, on whom the Shrike meant to pounce as they were attracted by them; for they remained uneaten, and the artful bird which stuck them there was always on the watch to fall on those which approached. They are the Locust Birds of the Cape of Good Hope, and destroy immense numbers of these depredators when all human means have been unavailing. If taken young from their large, ill-concealed nests, they will become tame; but if two are put together into a cage they will fight furiously. In Bengal they are taught to fight—a cruel diversion, one being held up opposite to another in the hand of a man, to whose finger the bird is fastened by a string, suffi-

ciently long to enable it to fly at and peck its adversary. By others it is so well trained that, at a given signal, it will seize and carry the small golden ornament, usually worn on the head of young Indian females, and convey it to its master. It will also, with wonderful celerity, follow the descent of a ring, purposely thrown down a deep well, catching it in its fall, and returning it to its owner.

Some place the Satin Bower Bird, discovered by Mr. Gould in Australia, among the Shrikes; others assign it a station amidst the crows. He describes its peculiar habits much in the following terms:—"It lives in the thick brushes between Port Philip and Moreton Bay—the cedar brushes of the Liverpool range and mountain-gullies, and is at present supposed to exist only in New South Wales. Its bowers are for playing, or for a hall of assembly, and are usually placed under the branches of a tree, in the most retired parts of the forest. There is first a convex flooring of sticks, firmly interwoven, on the centre of which the bower is built, or twisted with sticks, and is formed of slender flexible twigs, the tips of which curve inwards, and nearly meet at the top. The forks of the twigs being always outwards, there is no obstacle to the passage of the birds. It is decorated at and near the entrance with the gayest coloured things which can be collected, such as feathers, snail shells, bones, etc., some of the feathers being entwined among the twigs; and the propensity of these birds to pick up everything and fly away with it is so well known that the natives always search the bowers for what they have lost. Round and through these bowers the birds sport; but whether they are frequented all the year is not known."

FLY-CATCHERS (*Muscicapidæ*).

FLY-CATCHERS come to us in the summer from the hottest parts of Africa, and are so fearless of man that a pair were known to build their nest in the ornamental part of a lamp in Portland-place, and another in Whitehall. They frequent our orchards and gardens; and a curious anecdote of two is related by Mr. White. "They for many years built a nest in the stove belonging to Mr. Knight, the President of the Horticultural Society, and when the thermometer rose above 72° of Fahrenheit, the female always quitted her eggs, but resumed her sitting directly the mercury sank below that degree. The male bird used to feed her till nine o'clock at night."

The Tyrant Fly-catcher, called the Grey Petchary in St. Domingo and Jamaica, is thus described by Mr. Hill, of the former place: "Long before the voice of any other bird is heard in the morning, even when daylight is but faintly gleaming, the shrill unvarying cry of these birds is reiterated from their eyrie, on the top of a lofty cocoa-nut tree. They scream defiance to every inhabitant around them, and sally forth to wage war on all those who venture near; none but the swallow dares to take the circuit of their nesting tree. At a signal from one of the birds, perhaps the female, when a vulture is sweeping near, or a hawk is approaching, the mate flings himself upward in the air, and having gained an elevation equal to that of the bird he intends to attack, he starts off in a horizontal line, with nicely balanced wings, and, hovering for a moment, descends upon the intruder's back, shrieking all the while as he

sinks and rises, and repeats his attack with vehemence. The vulture, that courses the air with gliding motion, now flaps his wings eagerly, and pitches downward at every stroke his assailant makes at him, and tries to dodge him. In this way the petchary pursues him, and frequently brings him to the ground. The hawk is beset by all birds of any power of wing; but the boldest, and, judging from the continued exertion he makes to escape, the most effective of his assailants, is the petchary."

The common petchary plays with beetles, just as cats do with mice. It sits upon a twig, lets the beetle drop, then plunging downwards, gets under and catches it before it falls, and will continue this sport for a quarter of an hour at a time. These birds, and the grey, become a complete mass of fat in September, probably in consequence of eating so many honey-bees. Mr. Robinson (as quoted by Mr. Gosse) says, that a gentleman in his daily walks was attacked with such virulence by a petchary that was nesting, the bird actually pecking his head, that he was compelled to take up a stick in defence. Dogs seem especially obnoxious to it, and this not only during incubation. At any time a passing dog is likely to be assaulted by this fierce bird, and if he be so unfortunate as to have any sore on his body, that is sure to be the point of attack.

There is a large Tyrant Fly-catcher, which might easily be mistaken for a true bird of prey, for it hovers like a hawk, but its stoop is not as forcible or as rapid. It is a very cunning, odd bird, with a head and bill apparently too large for the body. The Spaniards call it *Ben te veo* "I see you well," for they find these words in its cry. I mention it here, as among the examples

so frequently brought forward in the West, of birds uttering sounds like words, and forming the foundation of an enquiry why these powers should be so much more often found in that part of the world. Does the power lie with the birds themselves, or in the imagination of the hearers?

SOLITAIRE (*Muscicapa armillata*. *Ptilogonys armillatus*).

MR. GOSSE, in his birds of Jamaica, puts this remarkable bird, the Solitaire, among the Chatterers, while Mr. Hill, of St. Domingo, places it among the thrushes. The latter gentleman calls it "that sweetly mysterious singing bird," and describes it as follows: "It is worth a journey to hear his wonderful song. As soon as the first indications of daylight are perceived, even while the mists hang over the forests, these minstrels are heard, pouring forth their wild notes in a concert of many voices, sweet and lengthened, like those of the harmonica or musical glasses. It is the sweetest, the most solemn, and most unearthly of all the woodland singing I have ever heard. The lofty locality, the cloud-capped heights, to which alone the eagle soars in other countries—so different from ordinary singing-birds in gardens and cultivated fields—combine with the solemnity of the music to excite something like devotional associations. The notes are uttered slowly and distinctly, with a strangely measured exactness. Though it is seldom that a bird is seen, it can scarcely be said to be solitary, since it rarely sings alone, but in harmony or concert with some half dozen others, chaunting in the

same glen. Occasionally it strikes out into such an adventitious combination of notes as to form a perfect tune. The time of enunciating a single note is that of the semibreve; the quaver is executed with the most perfect trill. It regards the major and minor cadences [scales?], and observes the harmony of counter-point with all the preciseness of a perfect musician. Its melodies, from the length and distinctness of each note, are more hymns than songs. Though the concert of singers will keep to the same melody for an hour, each little coterie of birds chaunts a different song, and the traveller by no accident ever hears the same tune."

The musical precision of this bird reminds me of three small, but monotonous songsters, on the outskirts of the forests of Fanti. They were represented to me by the natives as small and green, and as they fluttered away one day from my cautious approach, I had a glimpse of their colour. They always (say the negroes) associate in threes, and all perch close to each other on the same bough. One moves, and utters the sound "to-hoo;" the next follows, and sings "to-hoo" one-third lower; and the last "to-hoo" a third lower still, but always keeping the interval with the most delicate nicety. It is rather wearying, and one of the most melancholy sounds I ever heard, continuing through the day, and the birds seldom seen.

I knew a gentleman who was a very fine performer on the violin, and was reported to be an accomplished musician, who could not bear to walk in the country "because the birds," he said, "sang so much out of tune." The Solitaire and the African bird would probably have given him a different impression concerning feathered songsters.

GROSS-BEAKS (*Tangara*).

THE name of these birds tells their peculiar natural character, and that they deserve a place in this work for their intelligence, the following instance will shew. It is thus related by a friend of Mr. Audubon's: "I received a fine male gross-beak, but so emaciated that he seemed little else but a mass of feathers. By cautious feeding, however, he soon regained his flesh, and became so tame as to eat from my hand without the least appearance of fear. To reconcile him gradually to confinement, he was permitted to fly about my bedroom, and, upon rising in the morning, the first thing I did was to give him a small quantity of seed. But three mornings in succession I happened to lie rather later than usual; and each morning I was aroused by the bird fluttering upon my shoulder, and calling for his usual allowance. The third morning I allowed him to flutter about me some time before shewing any symptom of being awake: he no sooner observed that his object of awakening me was effected, than he retired to the window, and waited patiently until I arose." Gross-beaks sing by night as well as by day, with rich, full notes.

THRUSHES (*Turdus*).

THOSE greedy devourers of mistletoe, the Thrushes, create an universal interest from the melody of their song, which, in several instances, is equal to that of the nightingale. One of the largest is the Missel-thrush, or

Storm-cock, so called because it sings with most power when a storm is approaching, and frequently during its continuance. It is a daring bird, and valiantly keeps off magpies, jays, and crows, from its haunts. Its note resembles that of the blackbird, and it is very fond of the berries of the mountain ash. Mr. Waterton relates, that a pair did not quit their nest, although within fifteen yards of a spot where masons were at work. A tame magpie seized the female, and brought her close to the masons. The male bird instantly came up and rescued his mate by fighting the magpie, until he made it let go its hold. This loving couple retired triumphant to their nest; but the female lost half her tail in the fray."

The common thrush is a sociable bird, and not only hops about our gardens in the most familiar manner, but will build close to our houses. When it eats snails, it breaks their shells against a stone, and shakes off the fragments before it swallows the animal. "Watch an old thrush," says Dr. Stanley, "pounce down on a lawn, moistened with dew and rain. At first he stands motionless, apparently thinking of nothing at all, his eye vacant, or with an unmeaning gaze. Suddenly he cocks his ear on one side, makes a glancing sort of dart with his head and neck, gives perhaps one or two hops, and then stops, again listening attentively, and his eye glistening with attention and animation; his beak almost touches the ground,—he draws back his head as if to make a determined peck. Again he pauses; listens again; hops, perhaps once or twice, scarcely moving his position, and pecks smartly on the sod; then is once more motionless as a stuffed bird. But he knows well what he is about; for, after another moment's pause, having ascertained that all is right, he pecks away with might and

main, and soon draws out a fine worm, which his fine sense of hearing had informed him was not far off, and which his hops and previous peckings had attracted to the surface, to escape the approach of what the poor worm thought might be his underground enemy, the mole."

The thrush sings well in captivity, and cruel as it is to confine it in a cage, the desire to do so can scarcely be wondered at, for its sounds bring happy images of woods and fields to street-confined humanity. Mr. Broderip declares that he heard one which uttered "my dear—my pretty dear—my pretty little dear," not only to his ears, but to those of several other listeners. Foremost for its wonderful powers of song among the thrushes, stands the Mocking-bird of more western regions, and which well deserves its technical name of Orpheus Polyglottus, for it is an Orpheus among feathered musicians, and its notes embrace not only every variety exhibited by others, but even sounds made by men and quadrupeds, such as the rumbling of a wheelbarrow, the barking of a dog, the mewling of a cat, etc. Wilson says: "It is sober-coloured, but very elegant in its shape, and easy and rapid in its movements. It takes lessons from all the songsters that come within its hearing; its voice is full, strong, and musical, and capable of almost every modulation. Its native notes are bold, full, and of unlimited variety. All who have ever heard it, and who are sensible to such things, speak of it with enthusiasm, and one gentleman thus expresses himself:—'He bounds aloft with the celerity of an arrow, as if to recover or recall his very soul, expired in the last elevated strain. He many times deceives the sportsman, and sends him in

search of birds that may be many miles from him; and even birds themselves are deceived by him, fancy they hear the calls of their mates, or precipitately fly into the deepest thickets, from what they suppose to be the pursuit of a hawk. The ear listens to *his* music alone, for he improves on the songs of others while he imitates them. He repeats the tunes which his master has taught him, and runs over the quiverings of his associates in the woods, till, feeling their own inferiority, they become silent. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo, and serenades during the live-long night with a full display of his vocal powers, making the whole neighbourhood ring with his inimitable medley.’”

This description, although much abridged from Wilson’s writings, leaves but little more to say of this wonderful bird, except that it is as perfect a parent as a songster; and when it builds its nest near a human habitation, neither cat, dog, nor man can approach it without being furiously attacked. Cats are particularly persecuted—also hogs, which wait under the orange trees for the inferior fruit, which is shaken down to them in the evening, so that they acquire a habit of watching under these trees, in hopes of a windfall. The mocking-bird begins pecking at them with all its might; but the hog is highly pleased with the sensation it produces, and lies down to enjoy it; the bird, in great distress, redoubles its efforts, which only increases the hog’s enjoyment, and it is obliged to retreat in despair.

It is, however, much more provoked by the black snake, which is no sooner seen insidiously making its

way to the nest than it is rapidly darted upon by the male bird, which skilfully avoids its bite, and incessantly and violently assails it about the head, where alone it is vulnerable. The snake soon tries to escape: but the bold bird, unless it be of great dimensions, succeeds in destroying it. Its pretended powers of fascination are nothing; as soon as its strength fails, its antagonist lifts it partly from the ground, batters it with its wings, and, the victory being gained, returns to the nest, and pours out its triumphant melody.

WATER OUZEL (*Cinclus*).

ON the authority of Mr. St. John, I here record a curious habit practised by a little bird which bears the above name, viz., that of walking under the water. Some accurate observers have denied it; but this gentleman declares he has seen them sitting, each on its own peculiar stone, close to the water, "jerking its apology for a tail, and occasionally darting off for a hundred yards or so; then down it plumps into the water, remains under for perhaps a minute or two, and then flies back to its usual station. At other times it walks deliberately off its stone down into the water, walks and runs about on the gravel at the bottom, scratching with its feet among the small stones, and pecking away at all the small insects and animalculæ which it can dislodge. It uncovers the spawn of fishes in this manner, leaving what it does not eat to the attacks of eels and other fishes."

Mr. St. John also remarks that its notes ought to give it a place among our song-birds, which is contrary to general opinion.

GRAKLES (*Gracula*).

PLACED close to the thrushes, on account of the resemblance of their beaks, come the *Eulabes* and *Grakles*, which are found in India and the Indian Archipelago. They have a space bare of feathers round their eyes, and are unequalled in their power of talking. The tone is more hoarse than that of parrots or cockatoos; but the distinctness with which they pronounce, and the facility with which they repeat long sentences, cause them to be unrivalled. I have heard of one which, having been reared near a hospital in the vicinity of a parade, coughed, groaned, and moaned like the patients, then he vociferated "Halt!" and faithfully mocked the jingling of the ramrods.

One of the *Eulabes* with which I was acquainted was from the hills, and of a glossy black, with a yellow beak; its name, it told me, was Charlie; and there was not a word in any language with which it had been tried, too difficult for it to pronounce.

RED-BREASTS, ETC. (*Sylvia*).

ROBINS, or Red-breasts, are among those birds which place entire confidence in the friendship of man; and no sooner does winter approach than we see these cheerful little creatures hovering round our windows; and if at any time they have been fed from these windows, they repair to them again, in the evident expectation of the kindness being repeated.

Captain Brown informs us, that “during a severe storm, a robin came to the window of the room where his father usually sat, and he opened the window, to give it some crumbs. Instead of flying away, it hopped into the room, and picked the crumbs from the floor. His father, being very fond of animals, took great pleasure in taming this bird, and so completely succeeded, that it would pick small pieces of raw flesh and worms from his hand, sat on the table at which he wrote, and, when the day was very cold, perched upon the fender. When a stranger entered, it flew to the top of a door, where it perched every night. The window was frequently opened to admit air, but the robin never offered to go away. As the spring advanced, and the weather became fine, it flew away every morning, and returned every evening, till the time of incubation arrived, and it then flew away altogether. At the next fall of the year, it again asked for admittance, and behaved exactly in the same manner as before. It did this a third time, but when it flew away the ensuing spring, it was never seen again.”

Some years ago a pair of robins took up their abode in the parish church of Hampton, in Warwickshire, and affixed their nest to the church Bible, as it lay on the reading-desk. The vicar would not allow the birds to be disturbed, and therefore provided another Bible.

A similar instance occurred in Wiltshire, when the clerk, on looking for the lessons of the day (the 13th of April), perceived something under the Bible (which rested on a raised ledge), and there was a robin's nest containing two eggs. The bird was not disturbed, and laid four more, which were hatched on the 4th of May. The

cock bird actually brought food in his bill, and fed the young brood during divine service.

A gardener, in the service of a friend of mine, had encouraged the visits of a robin; but was one day surprised at the pertinacity with which the bird followed and hovered about him, even perching upon his shoulders, then going to a short distance and appearing to wait for him, returning when he did not follow. At last it struck him that his little friend might be asking for assistance, and he walked in the direction apparently indicated by the bird. At last the robin stopped at a flower-pot, in which it had built its nest, and uttered a cry. The gardener then perceived that a snake had coiled itself round the pot, and, as yet, had done no mischief to the young birds. He, of course, destroyed the intruder, and received the most grateful flutterings and song in return.

The *Gardener's Chronicle* affords a curious instance of the effect which education will produce on a bird of this kind; and I suspect many similar instances might be brought forward. "A gentleman (says the narrator of the story) informed me that a friend of his was possessed of a most wonderful bird, that he should much like me to see and hear. I went at an early day to view the prodigy. On entering the house and presenting my card, I was at once ushered into the drawing-room. I there saw two nightingale cages, suspended on the wall; one of them, with a nightingale in it, had an open front, the other had a green curtain drawn down over the front, concealing the inmate. After a little discourse on the subject of ornithology, my host asked me if I should like to hear one of his nightingales sing. Of course I was all expectation. Placing me beneath the cage, and

drawing up the curtain before alluded to, the bird above, at a whistle from his master, broke out in a succession of strains that I never heard surpassed by any nightingale. They were indeed surprisingly eloquent. ‘What a nightingale,’ ejaculated I. The rapid utterance of the bird, his perfect *abandon* to the inspiration of his muse, and his indifference to all around him, caused me involuntarily to exclaim with Coleridge,

‘———That strain again!
Full fain it would delay me.’

And so it did. I stood rivetted to the spot, knowing how seldom nightingales in a cage so deported themselves. After listening some time, and expressing my astonishment at the long-repeated efforts of the performer, so unusual, I asked to be allowed a sight of him. Permission was granted; and I saw before me—a *robin*. This bird had been brought up under the nightingale from his very earliest infancy, and not only equalled, but very far surpassed his master in song. The robin retained no one single note of his own whereby the finest ear could detect him; and this paves the way to still more singular discoveries hereafter.

“The Chiff-chaff, another *Sylvia*, is equally capable as the robin of being tamed; and lovers of birds need not always keep these pretty creatures in cages, when gratifying their taste. Modified confinement does not seem to affect them painfully; for one caught by Mr. Sweet took to feeding directly, and learned to drink milk out of a spoon. In three or four days it took a fly from his hand, and would wing its way round the room after the person who carried the spoonful of milk, of which beverage it was so fond, that it would perch

upon the hand that held the spoon, without manifesting the least fear.

“At last the confiding little bird became so very tame, that it would sit and sleep on Mr. Sweet’s knee by the fire; and when the windows were open it never attempted to fly out. ... It was with difficulty that the bird was induced to come out at the door into the garden, by the lure of its favourite spoonful of milk; twice it returned into the room; the third time it flew into a little tree, from which it came and perched on Mr. Sweet’s hand, and drank milk out of the spoon: from thence it flew to the ground on some chick-weed, where it washed itself, and got into a holly-bush to dry. Here it is supposed the instinct of migration overcame everything else, for Mr. Sweet did not see it any more, though he heard it call several times. ‘I suppose,’ says he, ‘that it left the country, as I could never see or hear it afterwards; and it was then the end of November.’”

NIGHTINGALES (*Curruca*).

IN the lime-tree avenues of the Jardin des Plantes in Paris, a vast flight of cockchafers used to assemble about every three years, and with them came an immense number of nightingales, doubtless to prey upon them. I happened to be on the spot during one of these triennial visits, and never heard a more glorious natural concert than that which frequently saluted my ears, day and evening, till nearly twelve o’clock. Once before, the same sort of pleasure had been afforded me in Chiselhurst lane, in Kent, when slowly riding along

it, on a very warm day in spring; and to which place it will be readily supposed I daily turned my horse's head, while I remained in the neighbourhood. People flocked to the Jardin des Plantes to hear the songsters, who were not intimidated by company, and they continued their strains at intervals for at least fourteen hours out of the twenty-four. They seemed to utter challenges from one end of the avenue to the other, and one musician above all others, strained its throat till it seemed impossible it should find any more breath to continue dwelling on one note; it then suddenly descended to the rolling sounds. Often it would stop and listen, and the challenge would be answered, and then most of the performers would be roused, and all sing together.

Nightingales are very sensible to the sound of musical instruments. Dr. Stanley says, that "the German hymn, played upon a flute very softly, near a bush in which there was a nest, soon attracted the attention of the birds. Scarcely was the air finished, than the cock was heard to chirp; and when played a second time, it was seen to hop through the bushes with great quickness towards the place where the player stood, at the same time making a sort of sub-warbling, which it soon changed into its usual beautiful and lengthened song." They with difficulty accustom themselves to cages; and, "if a male bird be taken after his song has won for him a partner, he hardly ever survives, and dies broken-hearted."

The Surrey nightingales are said to be the best in England, and the Polish, on the Continent. There is an African bird on the Gold Coast, and along the Bight of Benin, whose song closely resembles that of the nightingale.

Almost all poets sing of the melody of this our favorite, flying musician, whether they have, or have not, heard its performance. A Scotch poet, of no mean reputation, surprised me one day, by asking, to what place near London (where he had recently taken up his residence), he had better go to hear the nightingale, as he had never enjoyed that pleasure. I looked my astonishment, at which he laughed, and said, "You ought, at least, to give me credit for imagination; as I have so often written of its enchanting powers, but do help me now to enjoy the reality."

They have been heard as far north as Carlisle, and have never been known in Cornwall or Lancashire. They are said not to frequent Wales, except in Glamorganshire, and have resisted all attempts to be introduced into Ireland. "Russia, Siberia, Sweden, Spain, Provence, Italy, North Africa, Egypt, Syria, Smyrna, and the Grecian Archipelago, are made musical by them." Mr. Broderip informs us, "that neither the Channel Islands, nor Brittany, are visited by these birds, though France generally owns them."

This same gentleman, in his Zoological Recreations, says, he *must* introduce his readers to one or two of the words in which Bechstein tries to describe the song of the nightingale, and I, being seized with the same desire for *mine*, beg to transcribe them from his pages, if I can:—

"Zo zo zo zo zo zo zo zo zo zo zo zo, zivi hading,

He ze ze ze ze ze ze ze ze ze ze ze ze ze ze conar ho dze hoi

Higai gai gai gai gai gai gai gai guia gai gai gai conior dzio dzio pi."

WRENS (*Regulus*).

THE smallest of our British birds is the Golden-crested Wren, which only weighs eighty grains. "An intelligent lad" shewed a nest of one of these birds which had been built in a yew hedge, and "took out one of the young ones, then nearly fledged. After it had been viewed and admired—for it was very pretty, as most young birds are not—he replaced the tiny creature, and, to the inquiry whether the parents would not forsake the nest if so disturbed, he replied in the negative, adding that they were old acquaintances, and 'didn't mind,' for he often took the young ones out to 'see how they got on.' As soon as the nestling was returned to its happy home, the parent, that had been watching the proceedings from a neighbouring rhododendron, gorgeous with flowers, among which her small bright streak of a crest still shone brilliantly, repaired to her family, and covered them with her wings, as if nothing had happened."

The Reverend and Honourable W. Herbert says, that, in confinement, the least cold is fatal to them. He had half a dozen golden wrens at the beginning of winter, in a cage, and "at roosting time there was always a whimsical conflict among them for inside places, as being the warmest, which ended, of course, by the weakest going to the wall. The scene began with a low whistling call among them to roost; and the two birds on the extreme right and left, flew on the backs of those in the centre, and squeezed themselves into the middle. A fresh couple from the flanks immediately renewed the

attack upon the centre, and the conflict continued till the light began to fail them. A severe frost in February killed all but one of them in one night, though in a furnished drawing-room. The survivor was preserved in a little cage, by burying it every night under the sofa cushions; but having been, one sharp morning, taken from under them before the room was sufficiently warmed, though perfectly well when removed, it was dead in ten minutes."

In the "Field Naturalist" is a curious account of the fearlessness and perseverance of a Willow-Wren, which Mr. Yarrell tells us has a very soft, pleasing song. A lady, when walking in an orchard, saw something like a large ball of dried grass upon the ground, which she found was the domed nest of the willow-wren. Regretting her precipitation, she restored it as nearly as possible to its place, and the next minute its occupier proceeded with its work. In a few days two eggs were laid, and then came some splay-footed ducks, and with their shovels of bills spread the nest open, displaced the eggs, and left the nest a ruin. The lady drove away the ducks, tried to restore the nest to its proper form, and replaced the eggs. On that same day, an additional egg was laid, and in about a week, four more. The birds sat, and brought up all seven.

COCK-OF-THE-ROCKS (*Rupicola*).

MANY of the songs of birds are intended to win and keep the affections of their chosen females, but as often, they are uttered to give pleasure to themselves. For the

former, however, some take a different way of pleasing the soft sex, and practise the most extraordinary antics and gestures. An instance of this is to be found in the Cock-of-the-rocks, and is thus described by Sir Robert Schomburgk: "While traversing these mountains (Kikiritze in Guiana), we saw a number of that most beautiful bird, the cock-of-the-rock, or Rock Manakin (*rupicola elegans*), and I had an opportunity of witnessing an exhibition of some of its very singular antics, of which I had heard stories from the Indians, but had hitherto disbelieved them. Hearing the twittering noise so peculiar to the *Rupicola*, I cautiously stole near, with two of my guides, towards a spot secluded from the path, from four to five feet in diameter, and which appeared to have been cleared of every blade of grass, and smoothed as by human hands. There we saw a cock-of-the-rock capering to the apparent delight of several others, now spreading its wings, throwing up its head, or opening its tail like a fan; now strutting about, and scratching the ground, all accompanied by a hopping gait, until tired, when it gabbled some kind of note, and another relieved it. Thus three of them successively took the field, and then with self-approbation withdrew to rest on one of the low branches near the scene of action. We had counted ten cocks and two hens of the party, when the crackling of some wood, on which I had unfortunately placed my foot, alarmed and dispersed this dancing party."

SWIFTS, SWALLOWS, MARTINS (*Hirundo*).

ALL these birds are the close companions of man; but their song, though pleasing, is feeble. They migrate yearly, and return to the same place in which they build their nests, having traversed more than half the globe during their absence. They are, generally speaking, great favourites everywhere; and Wilson tells us, that the Barn Swallow of America is supposed to preserve from lightning whatever building it may inhabit. The communities of swallows, though large, are in general peaceful and friendly with each other; but an instance is given to the contrary by a gentleman at Blois, in France. "A pair had built their nest in the corner of my window; one of them being the same which had visited the place the previous year, I knowing it from a remarkable white feather in one of its wings. As soon as all seemed finished, my attention was arrested by a great noise and bustle at the nest, caused by a stranger of the same family of birds trying to force its way into the nest at the time the rightful tenants were within; and, notwithstanding their united efforts, he succeeded in entering and driving them out. This same warfare and similar expulsions took place daily for a week or more. One day the two rightful owners of the nest were very busy outside, and I soon perceived that they were engaged in lessening the entrance; in fact, they soon reduced it so much that they could scarcely force themselves into it singly. As soon as done, one or other constantly placed itself at the hole, with its bill visibly protruding; and though the intruder made regular

attacks upon them for a week or more, he never afterwards made any impression on them, and finally left them to enjoy the reward of so much sagacity and forethought."

Some swallows congregate in out-houses, church-steeple, and dwelling-houses; others place their nests on the ledges, and in the crevices of rocks; and others again bore holes in sand-banks, in which they live, and these are called Sand-Martins.

The Esculent Swallow of India and her Archipelago is so named on account of its nest being edible. M. Lamouroux says that the best of these nests are clean and white, but very insipid in taste. Some say they are formed of marine plants; others of fishes' spawn, inspissated sea foam, the juice of a tree; and others, again, of some molluscous animal. The substance itself is doubtless cemented by the viscid secretion possessed by swallows. They are often fixed to the sides of caverns near the sea, like watch-pockets, and the taking of them is attended by much danger. Of whatever they may be formed, they boil to a jelly, and are said to be highly nutritious; they are lined with feathers, look like coarse isinglass, and form a valuable item in the trade with China, 27,000 lbs. being annually exported from Java alone, and 30,000 tons of Chinese shipping carrying on the traffic. Dr. Stanley gives a very interesting account of the manner in which they are taken, but which is too long to insert here.

Of the courageous disposition of the swallow I find a proof in the Magazine of Natural History. The narrator of the anecdote says, "Swallows were, and are, allowed to build in out-houses belonging to my father;



THE SWALLOWS AND THE CAT.

the house-cat would often bask in the sun beside the out-houses, when the swallows always testified their detestation of her by flying over her head in a rapid, sweeping curve, almost touching her in its lowest inclination; and they shrieked their hatred as they flew. The cat was young and playful, and annoyed them in return by catching at them as they passed: this time they would fly in front of her, next time behind her, and this alternation kept her oscillating as it were, as her hind-quarters lay on the ground, from side to side. Now and then, as if enraged by their pertinacity and her own want of success, she would spring up into the air at them as they passed, with her best vigour and agility, but I never knew her catch one." Other writers say that the dauntless bravery of the swallow makes it one of the most vigilant videttes for the safety of the feathered race.

A serious charge is brought against these wandering birds, neither more nor less than that of desertion of their young when the period for migration returns. Dr. Jenner relates, that a pair of martins hatched four broods in one year, the last coming into existence in October, when, as they were incapable of flying, the old birds left them, half fledged, to die. They returned to the same nest the next year, and threw out the skeletons. Self-preservation alone will account for this; for they themselves must have died when the frost came, had they stayed.

Captain Brown tells us of a hen swallow whose mate was shot, which so enraged her that she flew at the sportsman, struck him in the face with her wing, and actually flew round him, screaming with rage. Whenever the gentleman walked out he was met by the

swallow, who never failed to attack him, except, indeed, on Sundays, when, from being differently dressed, it was supposed she did not recognise him.

“A swallow’s nest, built in the corner of a window, was so much softened by rain that it would not support the weight of five half-grown swallows, and, during a storm, it fell into the lower corner of the window, leaving the young brood exposed. To save the little creatures from an untimely death, the owner of the house caused a covering to be thrown over them till the severity of the storm was past. No sooner had it subsided than the sages of the colony assembled, fluttering round the window, and hovering over the temporary cover of the fallen nest. As soon as this was observed, the covering was removed, and the utmost joy evinced by the group on finding the young ones alive and unhurt. After feeding them, the members of the community arranged themselves in working order. Each division, taking its appropriate station, commenced instantly to work, and before night-fall they had completed an arched canopy over the young brood in the corner where they lay, and put them in security. It is probable that they would have perished from cold and hunger before any single pair could have executed the task.”

GOAT-SUCKERS, FERN OWL, GUACHARO (*Caprimulgus*).

THE soft plumage and crepuscular habits of the Goatsucker give it a certain degree of resemblance to the

owl; but it does not make the same cries. Its beak is so large that the air, as it rushes in when the bird is flying, produces a humming noise. The upper part has a row of hairs on each side, and a glutinous saliva prevents even the large insects on which the bird feeds from escaping after they have been seized. One of the claws on each foot is toothed like a comb; and some have asserted that this peculiarity is given for the purpose of cleaning these hairs; others, however, with more probability, believe it to be for the better securing of prey. Its wings are long, and its beak cleft so far back in the head, that when open, it looks as if the upper part would come off entirely. The bird has a great number of names, and the first which I have given arises from its reported habit of sucking goats; the reality of which is, that it fearlessly goes among cattle, and pecks off the insects which frequent their udders and bodies.

Like owls, a number of legends are connected with them; and the American Indians believe that souls of their deceased brethren live in them to haunt cruel masters. They also have a tradition that if they cry near a white man's door, sorrow will come upon the inhabitants; and if near an Indian's, some terrible misfortune is announced, which they await in the greatest alarm. One species inhabits South Australia and Van Diemen's Land, and others are found in America, whence comes the species which we have in England.

When the Goat-sucker is attacked, it hisses violently, and gets into hollow trees; and when these are loudly knocked, it pops its head up to see what is the matter, and if there be a good depth to which it can retreat, goes down again; but if not, scrambles away. One of

its notes resembles the vibration of the syllable "*shur*," and then it gives a little squeak. A species called the "Whip poor Will," is spread all over the United States, to which words its cry has a fancied or real resemblance. Another has received the name of "Chuck Will's Widow," because it is supposed to say these words, and inhabits Mexico and the warmer states. Various sentences are ascribed to them, a great many of which contain the word, "Willy," such as "Willy, come go," "Work, Willy, work;" but the Jamaica species, named very aptly the Musquito Hawk, as it is supposed to feed plentifully on these insects, has also gained the name of "Piramidig," or "Gi' me a bit," or "Witta-witta-wit," from its cry. It also makes a noise like blowing into the bung-hole of a cask, when it rapidly descends. That called the Potoo makes the most plaintive cries, like a cat in pain; and Mr. Gosse observes, "that, among a people whose most striking feature is the great development of the mouth, the Potoo has strangely become a proverb of ugliness. The 'most unkindest cut of all' that a negro (of the West Indies) can inflict upon another, on the score of personal plainness, is 'Ugh! you ugly, like one Potoo!' In that part of Africa where I have longest dwelt, the worst term of abuse is, 'Sir, you no ghentleman; you proper black man.'"

To return to the Goat-suckers. Almost all of them lie their whole length on the branch of a tree, with their heads close down, where they will remain, says Mr. St. John, "flat and motionless for hours together, allowing a person to approach nearly close to them before they move, although watching intently with their dark eyes to see if they are observed."

A very remarkable bird, called the *Caprimulgus Steatornis*, or Guacharo, was made known to us, and is described by that prince of travellers, Baron Humboldt, in nearly the following terms—"A frightful noise, made by these birds, issued from the dark recesses of the cavern of Guacharo; their shrill and piercing tones reverberated from the arched roofs, and were re-echoed from the depths of the cave. The Indians, by fixing torches to the end of a long pole, pointed out their nests, arranged in funnel-shaped holes in the roof. As the travellers advanced, the noise increased, the flare of the torches alarming the birds still more. When it ceased, distinct moans were heard from other remote branches of the cavern, the alternate responses of others of the same kind. The Indians every year descend into the cave, furnished with poles to destroy the nests. Many thousands of birds are killed, and the old ones, as if to protect their broods, hover over the heads of the Indians, uttering the most dreadful shrieks. The young that fall to the ground are immediately ripped open, to procure a sort of unctuous or fatty substance, with which they are loaded. This is called the oil harvest, and the Indians at this time construct little habitations of palm leaves close to the opening, and even in the mouth of the cavern. Here the grease of the young bird is melted over a fire, and poured into pots of white clay. It is known as Guacharo butter, is semi-liquid, transparent, and without smell; and so pure that it may be kept a twelvemonth without becoming rancid. At a neighbouring convent no oil but that of the cavern was used in the monk's kitchen; and it was never found to impart a disagreeable taste or smell."

LARKS (*Alauda*).

ONE of the most universal inhabitants of the earth and sky, one of the most cheerful, and one of the most loved, is the Lark, recalling such images as it does of our own dear country, and frequently of those happy scenes of childhood which were passed in the fields. Toiling under the hot sun of the tropics, what a thrill of delight shoots across the wanderer, as the lark over his head reminds him of the cool glades of home. Stiffened with the climate of the frozen zone, the heart expands to the recollection of golden corn fields and verdant meadows, as awakened by the clear and happy carol of this songster. At the first dawn of day it is up and stirring, rising perpendicularly into the clear blue heaven, and continuing to be heard long after it is invisible.

It is so impossible not to feel the truth of Mr. Broderip's remarks on the caging of larks, that I cannot avoid quoting them, particularly as, while I write this, I hear one of the poor prisoners endeavouring to be happy in its narrow space; and its own exquisite song tainted by many a note caught from the London sparrow. "Of all the unhallowed instances," says the above gentleman, "of bird incarceration, the condemnation of the sky-lark to perpetual imprisonment is surely the most repugnant to every good feeling. The bird, whilst his happy brethren are carolling far up in the sky, as if they would storm heaven itself with their rush of song, just at the joyous season—

‘When wheat is green, when hawthorn buds appear,’
is doomed to pine in some dingy street. There, in a

den with a solid wooden roof, painted green *outside*, and white, glaring white, *within* (which, in bitter mockery, is called a 'sky-lark's cage'), he keeps winnowing his wretched wings, and beating his breast against the wires, panting for one—only one—upward flight into the free air. To delude him into the recollection that there are such places as the fields, which he is beginning to forget, they cut what they call a 'turf'—a turf dug up in the vicinity of this smoke-canopied Babel of bricks, redolent of all its sooty abominations, and bearing all the marks of the thousands of tons of fuel which are now suffered to escape up our chimneys, and fall down again upon our noses, and into our lungs—this abominable lump of dirt is presented to the sky-lark as a refreshment for his parched feet, longing for the fresh morning dews. Miserable as the winged creature is, he feels that there is something resembling grass under him; and then the fond wretch looks upward and warbles, and expects his mate. Is it possible to hear and see this desecration of instinct unmoved? And yet we endure it every spring; and, moreover, we have our Society for the Prevention of Cruelty to Animals."

Larks are, like most other birds, sagacious in the protection of their young, as the following instance will prove, which is taken from "The Naturalist:"—"The other day, some mowers shaved off the upper part of the nest of a sky-lark, without injuring the female, who was sitting on her young: still she did not fly away; and the mowers levelled the grass all round her, without her taking any notice of their proceedings. The son of the owner of the crop witnessed this, and, about an hour afterwards, went to see if she were safe; when,

to his great surprise, he found that she had actually constructed a dome of dry grass over the nest during the interval, leaving an aperture on one side for ingress and egress ; thus endeavouring to secure a continuance of the shelter previously supplied by the long grass."

- Larks are frequently pursued by hawks, when they suddenly drop to the ground like a stone ; but man is a still greater enemy ; for thousands of larks are destroyed in England for the table, the chief of which come from Dunstable. Holland and Germany also supply a great number. In spite of this destruction, the lark, like many other birds, will fly to man for refuge—an instance of which is given by Captain Brown. He says, that "a gentleman was travelling on horseback in the west of Norfolk, when a lark dropped on the pommel of his saddle, and, spreading its wings in a submissive manner, cowered to him. He stopped his horse, and sat for some time in astonishment, looking at the bird, which he supposed to be wounded ; but, on endeavouring to take it, the lark crept round him, and placed itself behind : turning himself on the saddle to observe it, the poor animal dropped between the legs of the horse, and remained immoveable. It then struck him that the poor thing was pursued, and, as the last resource, hazarded its safety with him. The gentleman looked up, and discovered a hawk hovering directly over them : the poor bird again mounted the saddle, under the eye of its protector ; and the disappointed hawk shifting its station, the little fugitive, watching its opportunity, darted over the hedge, and was hid in an instant."

A curious anecdote of the sky-lark appeared in the *Northampton Mercury* of August, 1851, which I now

transcribe:—"A stoat was making its way from an adjoining field, across the road, with a young partridge in its mouth, which it had killed, when it was pursued and attacked by two sky-larks and a wagtail. The three assailants, acting in concert, rose a little in the air, then pounced down upon their ruthless enemy, repeating their attacks so furiously that the stoat was obliged to abandon his prey. Each time he attempted to regain it, they renewed their attacks with increased fury, evincing a courage which was quite admirable in birds of their pacific nature. At length the stoat espied the narrator of this combat close by; and probably feeling some misgivings as to his safety, amidst so many enemies, he ran off with the utmost speed, leaving the partridge behind."

TITMICE (*Parus*).

THOSE who have walked by the tall reeds which grow upon a river's banks, will doubtless have seen those lively little birds, Titmice, and heard their clear, ringing notes. Should the passer-by come too close, they run like lightning down the stalks, and hide themselves among the leaves at the bottom. One species frequents butchers' shops, to peck off a dainty morsel of meat, and the same species will break off the buds of fruit-trees, in the hope of finding an insect inside. The Bearded Titmouse swallows both the shell and the inhabitant of the snail-like *succinea*, with which it fills its crop, and afterwards it will swallow small, sharp stones, with which to break the shells in its stomach. The Great Titmouse breaks hazel nuts; and if one be suspended

by a thread, although it may, by comparison, be called great, it is small enough to mount upon this hazel nut, and peck at it while it oscillates. This species rolls itself into a ball, sticking each feather up separately, even covering its feet by the same contrivance. It will plant itself at the door of a hive, and tap loudly on the edge; which signal is answered by a sentinel bee, who is immediately snapped up, taken to the bough of a tree, where he is beaten to death, and then loses his head and thorax; the rest of him being unworthy of the appetite of the captor. The Marsh Titmouse is very plentiful in Holland, and most amusing, from the strange attitudes and antics which it assumes and plays. Mr. Dovaston informs us, that a pair of Titmice built their nest at the top of the handle of his pump, where it bends, and is joined to the piston with a swivel. This pump was constantly used, and shook and made a great noise, and the hinges frequently grated; but the Titmice paid no heed to all this. They collected as much moss for their nest as would fill a man's hat, and to prevent any of it from falling, the birds propped it up with sticks. One of the young birds would occasionally fall in at the top of the pump, and come out again at the spout; and the servants watched over the safety of the whole family as if they had been children. Titmice seem to have an odd taste in the position of their dwellings; for among other curious places chosen by them for a habitation, a pair made a nest in the skeleton of a man who had been hung for murder, and left on the gallows.

BUNTINGS (*Emberiza*).

ALTHOUGH not confined to that region, Buntings are reckoned among arctic birds; and Captain Lyon found the nest of one in the bosom of a dead Esquimaux child. They are destructive to grain-stacks, and will entirely destroy their thatch, of which they singly pull out all the straws, in search of seeds. The far-famed Epicurean delicacy, the Ortolans, are buntings; and being caught in nets, they are, says Mr. Gould, "shut up in a dark room, fed with oats and millet-seed till they become lumps of fat, and weigh three ounces." They are sent abroad to various countries, preserved, so as to keep them from spoiling. Dr. Stanley asserts the curious fact, that the female buntings alone migrate; if the example of the Pine Buntings of the Carolinas which come from India, be followed; for among them not a single male bunting, he says, is to be found. That species which is called the Snow Bunting, Mr. St. John assures us, only, but immediately, assumes its white plumage when there is an abundance of snow.

SPARROWS (*Fringilla*).

THE most abundant, the most impudent, the most daring of all little birds, are Sparrows. Wherever we go we see them, and they swarm wherever man congregates. Captain Marryat's character of them may be easily verified, for they almost get under our feet when we

walk in the streets of London. The following is an instance of their affection for each other: "A pair were in search of a locality for their nest; and finding a likely hole in the roof of a house, the male bird crept into it, and being encumbered with broken mortar could not get out again. The female, in great distress, tried to pull him out, and several birds came twittering round to see what was the matter. The female beat them all off, and redoubled her efforts to extricate her husband. She laid hold of his beak above the nostrils with her own beak, and pulled so hard that she killed him. Not aware of what she had done, she continued to pull, when a man, who had seen the whole transaction, extricated the bird for her. His head was dreadfully mangled, and the beak of the female had penetrated the brain. On passing the place an hour afterwards, she was seen sitting on the spot where the accident had happened, crouched together, with her feathers standing up, looking like a ball, and the very image of a disconsolate widow."

Sparrows are very good eating, and on a certain occasion my brothers and I were promised a sparrow pudding by way of a treat; my father shot them for us, having a secret design of dropping in at our dinner time, and partaking of the feast. The pudding was brought to table smoking hot, and the cook sent an apology for its unusually dark appearance, for which she could not account. The crust was cut, and out gushed a liquid which resembled ink, and the flesh of all the birds was nearly as black. The curiosity of the thing almost reconciled us to the disappointment, for on tasting one we could not eat a morsel more. Inquiries were made, and the cook informed us she had, when cleansing them, taken out numbers of the privet berries

(of which there was a hedge in the garden), and thus the mystery was solved.

These birds are great fighters; and Captain Brown thus describes a contest in which he was an assistant: "About ten years ago, when walking along Drummond Place, Edinburgh, two cock sparrows which had quarrelled, fought most determinedly on the roof of a house; one of them fell from the ledge, and the other, taking advantage of this, flew on the top of him, and bore him down to the flags, where they screamed and fought like two game-cocks. So intent were they on their battle, that I approached and seized them both before they were aware of it; and, after carrying them a little way, I set them both at liberty at the same instant, when they again commenced hostilities, and fought their battle out in the enclosure amongst the trees. One of them, after a time, fled, and was hotly pursued by the other."

By way of placing them in a more favourable light, I relate the following remarkable occurrence: "The late Mrs. O'Brien, of Manor Place, Chelsea, had a canary which was a particular favourite, but whose loud singing often obliged her to put him outside the window, among some trees in front of the house. One morning, during breakfast, when the cage was thus placed, a sparrow was observed to fly round and round it, to stand upon the top, and to twitter to the bird within, between whom and itself a conversation at length began to ensue. After a few moments he flew away, but returned in a short time, bearing a worm in his bill, which he dropped into the cage, and again flew away. Similar presents were received day after day by the canary from his generous friend, the sparrow, with

whom he at length became so intimate that he very often received the food thus brought into his own bill from that of the sparrow. Neighbours hung out their birds to see if the sparrow would also feed them, and he extended his cares to them; always, however, paying the longest visit to his first friend. He was shy to man, always going to a distance if any human being approached, but continued his visits to his feathered friends till winter, at which time he disappeared, and was never seen again."

"A sparrow is not only bold with regard to men, but still more so, on particular occasions, towards other birds. A blackbird used to come upon a lawn to forage for worms. One day a person saw the blackbird making off with a prize, when a sparrow, darting from a thick bush close by, assailed the blackbird, and made him drop the worm, of which he took immediate possession. So singular a circumstance induced the observer to look out now and then when blackbirds came, and he frequently saw the same piratical practice adopted by the sparrow, who thus enriched himself by the labours of the larger bird."

A friend of mine told me, that when he was a boy he robbed a sparrow's nest of the male bird, and put it into a cage. The poor captive refused to eat, and died in a few days. The marauder then felt some curiosity to see how the nest went on without the head of the family, and he revisited the spot, where, to his great surprise, he found the hen had taken to herself another mate, and the family were proceeding most happily. The curious part of this is, the question how the female had communicated her distress to her new mate; whether she knew if the old one were dead; or whether

she had made the presence of the second husband a conditional agreement, for birds are often very jealous. These are mysteries which we cannot solve.

GOLDFINCHES (*Fringilla*).

ONE of the most tractable of European birds, as well as one of the most beautiful, is the Goldfinch. It frequents the haunts of men, as every piece of waste ground in London will testify, especially if any thistles be growing there. It lives many years, becomes quite grey and feeble from age; and so strong is the belief in its self-conceit, that several persons who keep it in confinement, place a small looking-glass in its cage, that it may gratify its self-admiration. The nearer approach to truth, however, is, that the poor bird is deluded by the reflection of its own image into the belief that it sees a companion of its own kind. The translator of the famous little book written by Bechstein, "On Cage Birds," says, that a lady kept a goldfinch in a cage, which never saw her depart but he made an effort to follow her, and welcomed her return with every mark of delight, testifying his pleasure by all sorts of winning gestures. He caressed her finger with low and joyous murmurs, but if any other finger than that of his mistress were offered, he pecked it sharply; and if hers and that of another person were put together into the cage, he always distinguished hers, and gave it every mark of preference."

The two following anecdotes shew considerable sagacity, and, at the same time, much sociability, in

these birds: "Some goldfinches had built their nest on a small branch of an olive tree; after hatching their brood, the parents perceived that the weight of the growing family would soon be too great for the strength of the branch which supported the nest; in fact, it was beginning to give way. Something was to be done, or the nest would fall; this was evident to the beholders, and equally so to the goldfinches. Accordingly, they were observed to fasten, by a small string they had picked up, the bending twig to a stronger and higher branch of the tree, and thus their nest was saved."

"In the spring of 1827, a goldfinch had been lost from a cage which was left hanging up, and the door open, in the passage entrance to a back court of a house in a country town in the West of England. A female goldfinch was one morning found feeding in it, and the door was closed upon the prisoner; but, as it appeared to be a female, it was shortly after let out again. In the course, however, of about two hours, it returned, and re-entered the cage, when it was again shut in, and once more, after a short time, released; and these visits were repeated daily for a considerable time. She was missing for a few days, but then returned, accompanied by a male bird, when she entered the cage and fed as usual, leaving her companion, who appeared rather more shy, sitting on the outside wires of the cage, from whence he shortly fled to a neighbouring tree, until she joined him. They then went away, and were absent so long that nobody thought anything more about them, when, at the end of seven or eight weeks, she again made her appearance, accompanied, not only by her former companion, but by four full-grown young ones, when she entered the cage and fed as usual, but as she

could not persuade her brood to follow her example, she finally went off, and from that time was never seen again."

A friend has thus written to me while I have been occupied with these pages:—"In the winter I saw a wretched goldfinch, bare of feathers on the head and greater part of the body. It was horrible to look at; but the poor little bird, though apparently in a state of great irritation, and frequently biting his stumps, sang merrily. The butler, to whom he belongs, has now cured him, by giving him a little more green food than before, depriving him of hemp-seed, putting a rusty nail into the water which he drank, and allowing him a warm bath twice a week: this last made the little creature feel faint for a time; but he seemed very comfortable when dry, and he is now quite well."

CANARIES (*Fringilla Canaria*).

THESE charming songsters, which take their name from one of the countries where they abound, have been known to continue their strains with such strength and ardour in the pairing season, that they have burst the delicate vessels of their lungs, and died suddenly. They are universal favourites; and multitudes of anecdotes are told of their docility, their attachment, and their aptitude in learning tricks. They not only come from the Canary Islands, but from other islands in that part of the Atlantic, where they are as numerous as the sparrows in England, and are of a dusky, greenish-grey hue, tinged with yellow. They were first brought to this country

in the reign of Queen Elizabeth, from which period they have been a profitable source of trade; but they are chiefly reared in Germany.

A canary was once exhibited which acted the part of a deserter, and flew away, pursued by two others, who appeared to take him into custody. A lighted candle was presented to one of the birds, by means of which he fired a small cannon; and the deserter fell on one side, as if killed by the shot. The third then brought a small wheelbarrow, as if for carrying off the dead; but as soon as he came close to him, the deserter jumped upon his feet.

BULLFINCHES (*Pyrrhula*).

THESE solitary little birds are the cleverest imitators and acquirers of tunes which Europe possesses. They are voracious consumers of the flowers of fruit-trees; but their beauty and their cleverness cause them to be much esteemed. They are among the few birds which take a mate for life. They have a soft, low note of their own, and grow nearly black when in confinement—a change which is attributed to the use of hempseed.

They learn best immediately after eating; and the lessons must be continued during the time of moulting, or they will forget what they have acquired. I once attempted to teach a new tune to one, and it was amusing to watch the progress of my pupil. It was not allowed to remain in the room where the piano was, except when it received instruction; when it would hesitatingly bring out two or three notes at a time, after repeating what it

already knew. When it was entirely successful, it used to sing the whole tune in the most triumphant manner possible, screaming it out, and expanding its wings with delight. It, however, never could retain more than three tunes at a time; and as soon as it learnt a fourth, it forgot one of those previously acquired.

“It so happens,” says Dr. Stanley, “that singing and satisfaction generally go together in bullfinches; for a bird attached to any particular individuals in a family, will always express delight when they approach, and greet them with his well-known air, hopping towards them on his perch, and practising all his little coaxing ways. Sir William Parsons, who was himself a great musician, when a young man possessed a Piping Bullfinch, which he had taught to warble, ‘God save the King.’ On his once going abroad, he gave his favourite in charge to a sister, with a strict injunction to take the greatest care of it. On his return, one of his first visits was to her; when she told him that the poor little bird had been long in declining health, and was at that moment very ill. Sir William, full of sorrow, went into the room where the cage was, and opening the door, put in his hand, and spoke to the bird. The bird remembered his voice, opened its eyes, shook its feathers, staggered on to his finger, piped ‘God save the King,’ and fell dead.”

CROSS-BEAKS (*Loxia*).

THE Cross-beaks are said to have come to England only when apple-trees were introduced, into which fruit they

bore a hole, tear it open, and devour the kernels. They are placed in these pages on account of the remarkable formation of their beak, and the fact that, while young, and their parents provide for them, these beaks are perfectly straight, and the upper part shuts into the lower; by which means they with facility receive that food which is brought and dropped into their mouths; but no sooner are they able to feed themselves, than the upper and lower parts of their beak cross each other, to enable them to split apples, almonds, and fir-cones. They generally peck a little hole, into which they insert the bill, and tear the substance open by lateral force. Few things will resist them; and a pair, kept in a cage, untwisted the wires of it with their beaks and claws; "and a short flat-headed nail," says Mr. Yarrell, "was an object on which they delighted to exercise their talents. The male, who was the leader in every exploit, worked at it till he was successful, and drew it out of its place."

"A very odd superstition concerning cross-bills," Mr. Broderip tells us, "exists in Thuringia. The mountaineers of that country believe that they can take upon themselves any disease to which their owner is subject, and therefore he always keeps some of them near him. They are sure that a bird whose upper mandible bends to the right, has the power of transferring colds and rheumatisms from man to itself; and if this mandible turns to the left, he is equally certain that the bird can render the same service to women. The cross-bill is often attacked with epilepsy; and the Thuringians drink, every day, the water left by the bird, as a specific against that disease."

STARLINGS (*Sturnus*).

STARLINGS, like many other birds, have been falsely accused of possessing the most mischievous propensities. Their champion, Mr. Waterton, has done much towards the vindication of their character, and says, that “they do not suck pigeons’ eggs, and that they only enter the dove-cotes for protection—the true rogues being the rat and the weasel.”

Of their habits, Dr. Stanley gives the following history:—“At the close of January, one or two unconnected birds now and then make their appearance on the weathercock at the top of the church tower; at first but for a few minutes, as if they had merely touched upon it as an inviting resting-place, in their unsettled course. In February, if the weather happens to be mild, the number of idlers may now and then increase; but still the visit seems to be but the mere passing call of strangers. In March, however, about the first or second week, according to the state of the weather, things begin to assume a more bustling and serious appearance; the flights increase; the three and four are multiplied to fourteen or sixteen; and the song becomes a little chorus, more loud and more joyous than before. One or two of the boldest gently fall upon the lawn, look suspiciously about, and are on the wing in a moment, if any one should approach the window, or a door is heard to shut or open.

“At the end of the second week, the parties seem to be determined on making a permanent establishment; at early dawn, till about ten, they seem to be making their communications to each other; then off they go, and are seen no more till four or five o’clock, unless any one should

look for them in company with some neighbouring rooks, or the noisy jackdaws of a neighbouring beechwood.

“About the third week the plot thickens, and by the end of the month a regular establishment of about thirty is formed, and work begins. They are cunning birds, and soon discover if they are watched, when they are all on the alert; they wheel about instead of going straight to the nest, and give notice to their mates. If severe weather come, or a violent snow-storm, they suspend their operations, and if it continue, they disappear; but with fine weather they re-appear, and resume their work. The nests are built, the eggs laid, and the young hatched, when noise, bustle, and activity increase—all in harmony, and never any quarrelling with other birds. The young ones fledged, short flights are taken, which increase; but still they return to roost near their nests; at length, according to the warmth of the season, they altogether go away, but return to the same spot to recommence their yearly operations.” Dr. Stanley thinks that they migrate to different parts of the kingdom, especially to fens or marshes, where reeds grow; he, and also others, are of opinion their number is very much diminished of late years.

At Flamborough Head there is a light-house, against which those birds of passage which fly by night, often dart with such force against the glass refractors that they are immediately killed. At the latter end of the year 1836, seventeen dozen of starlings were picked up near this light-house, having been killed, maimed, or stupefied, by knocking against that brilliant light.

The Barbadoes Blackbird, or the Tinkling Grakle, is a species of starling, and is very attractive from its size,

glossy plumage, and familiar manner. Its cry consists of two or three notes, like the sounds produced by repeatedly and forcibly striking a piece of sonorous metal; occasionally relieved by the creaking of a pencil upon the slate. It feeds on the parasites of cattle, picking the ticks off them. It is also fond of the honey found at the base of the flower of the Agave, which is supposed to quench its thirst. The mocking-birds are also fond of this, and great quarrels often ensue about it, which generally end in the discomfiture of the tinklings. They roost on cocoa-nut trees, and as each new arrival causes the frond to shake, and throw those already come off their balance, they are received with open beaks, and an immense amount of squabbling, their voices in full cry, and are heard at a great distance. When their broods are hatched, they are said to tear up their nests with their feet, and scatter the materials; and the nest of any other bird on the same tree undergoes the same fate, without regard either to eggs or offspring.

“The children of Barbadoes,” says Mr. Hill, “collect these birds on Shrove Tuesday, take them into the towns, play with them and feed them with cockroaches, for which he cannot assign any reason. The tinklings in Jamaica rub themselves with limes, which they pick up, in order to impart the aromatic odour of the bruised rind to their feathers.”

CROWS, CHOUGHS, RAVENS, ROOKS, JACKDAWS (*Corvus*).

I now come to a whole tribe of bold, clever, cunning, impudent, inquisitive, and pilfering birds; all grouped

into a widely-extended genus, the members of which bear the above names.

Crows are omnivorous, have a very acute sense of smell, and are such thieves that nothing is safe from their secretive habits. They are larger than the other birds of the genus, and their plumage, in the northern parts of the world, is black; elsewhere they often shew a portion of white. If prejudice could be set aside, a pie made of young crows would be found equal to one composed of young rooks. What is called the Chough is a red-legged crow, and he is one of the most inquisitive of all birds, examines everything, takes it away if he can; and if there be a collection of anything to which he has access, he is sure to scatter it in all directions. Those which have been kept as pets have proved to be very affectionate, liking to be caressed, but, at the same time, are very easily affronted. They eagerly devour flesh, but will eat grains. Their favourite dainty, however, is the grasshopper.

Mr. Gosse says, that the Jabbering Crow of Jamaica has wild and harsh tones, so articulate, however, as to sound like some savage language, poured out in sentences of infinite variety from the summit of some lofty tree. The negroes think they hear it say, "Walk fast, crab, do buckra work, cuttadoo (a little hand-basket) better than wallet." There is but little doubt that these sounds are intended to attract their companions, for if there be one within hearing, it comes and enters into noisy conversation with the speaker. They seem to calculate with great accuracy on the distance which a gun will reach, and, when beyond it, sit still as if in defiance; but on other occasions they fly away on the least alarm. "They are very droll

when tame; and when stealing, which they do abundantly, are very silent. They are said to destroy the yellow snake, flying at it one after the other, and tearing out a mouthful of its flesh in the most horrible manner, by which means they eat it alive."

Mr. Waterton states, that the European crow is the earliest and latest of diurnal birds, and a curious feature in its character is, that although, generally speaking, it is a very shy and cautious bird, yet in nesting and pairing time it makes every endeavour to see and be seen, and to frequent the vicinity of man. One mischief of which it is guilty is to eat cherries, but the greatest of all is the destruction of young poultry. Mr. Waterton lost nine out of ten young ducklings by putting them into a pond about 300 yards from a high tree in which two carrion crows had built their nest; and as ducks never do anything effective for the defence of themselves or their young, they fall an easy prey. However, so little does the above gentleman think crows mischievous, that he never molests them, and at least three score issue annually from his park. His charitable opinion could not, however, be followed by a farmer, who had four ducks taken out of his pond, and a pigeon from his barn-top, in the course of the week, and he had the pair destroyed which made such havoc.

Mr. Ranson, of Hull, has told me that he and a friend saw a couple of crows make an assault upon a pee-wit, which endeavoured to defend her nest. "If she left it to attack either of them, the other came upon the other side, so that she was in danger of being robbed by the foe in the front or the rear. Her endeavours to keep them off were unceasing, and no doubt they would have been successful, had not Mr. Ranson's

friend climbed the tree in which they had built their nest. They were highly indignant at this attempt, wheeling round and round the tree, and often approaching within a yard of the plunderer, but their strength was not equal to their courage and perseverance, and they lost their eggs."

Wily as crows are on ordinary occasions, when pressed by hunger their courage and daring are quite equal to those of birds of prey, and they will seize their victims in the close vicinity of man.

The crows of Ceylon are particularly impudent, and are very large birds, with thick glossy plumage, and very intelligent. They will fly into the breakfast room when the family are assembled at table, and snatch off a slice of bread; watch the cook in the cook-house, and, when his back is turned, fly off with some of the food. One attacked a piece of cake in the hand of a child six years old, and got it away from him. Another, called the "Old Soldier," because he was so daring, and had lost half of one leg when fighting, used actually to take food away from a dog while he was eating, irritate him, and then, when he barked, snatch the prey, and triumphantly bear it off to a neighbouring tree, where he ate it at his leisure, while the dog stood looking at him, and uselessly venting his rage in loud and angry barks.—*Sirr*.

I must now exhibit crows in a more amiable light, and show the strength of their affections. A gentleman had reared a crow, which was very amusing from its tricks; it lived a long time in the family, but at length disappeared, and was supposed to have been destroyed. Eleven months after it was missing, the gentleman was standing by the side of a river, in company with several

others, and a number of crows passed over their heads. One of them separated itself from its companions, and perched upon the gentleman's shoulder, and began chattering at him in the most vociferous manner. He recognised his old favourite, and caressed it, but when he desired again to take possession of it, the crow, having tasted the sweets of liberty, made its escape, and, mounting in the air, flew away for ever.

“In the northern parts of Scotland, and in the Feroe Islands, extraordinary meetings of crows are occasionally known to occur. They collect in great numbers, as if they had all been summoned for the occasion; a few of the flock sit with drooping heads, and others seem as grave as judges, while others again are exceedingly active and noisy: in the course of about an hour they disperse, and it is not uncommon, after they have flown away, to find one or two left dead on the spot.” Dr. Edmonston says, that “these meetings will sometimes continue for a day or two before the object, whatever it may be, is completed. Crows continue to arrive from all quarters during the session. As soon as they have all arrived, a very general noise ensues; and, shortly after, the whole fall upon one or two individuals, and put them to death. When the execution has been performed, they quietly disperse.”

The cunning Ravens inhabit all Europe, and a large portion of Asia, and in ancient and modern times have been considered as omens, rather of evil than of good. I once saw a letter from a gentleman to his wife, who was on a visit from home, which informed her that the cook of their family was ill, and that, although not considered in danger by the doctor, he was sure she

would die, for he had three times seen a raven perch upon the top of the kitchen chimney ; and he intreated the lady to return home as soon as possible.

These voracious birds eat everything that has, or has had, animal life in it ; and they, as well as crows, attack young lambs or weak quadrupeds, and pick out their eyes. They live chiefly on rocky precipices, or tall trees ; are very combative, and overcome the fiercest game-cocks. They will, however, become very tame and familiar, and are even capable of strong attachment ; but their acquisitive and secretive propensities, although amusing, sometimes cause much annoyance. A large raven used to frequent a coach-stand, not far from the street in which I lived, and was the terror of almost all the women and children in the neighbourhood, some of whom gave him many a sly thump. These thumps were occasionally and liberally bestowed by still more powerful arms ; but he appeared to have a charmed life, and to rise up again as if he had never been knocked down. I have seen him prostrate, and to all appearance dead, but in a few hours a sharp bite on my heels, as I quitted a shop, convinced me he was still living. On one occasion I beheld him, as I imagined, drowned ; for he was lying perfectly still on the pavement, to all appearance breathless, and every feather so drenched that the stem of it was visible. When I turned him over with my parasol he was not roused ; and knowing that ravens cannot endure water, I felt justified in announcing his death to the rejoicing ears of my children, who said they could now walk peaceably along the street which he frequented. They accordingly went the next day ; but the foremost of them rushed back to her nurse, who

was not less alarmed than herself, for there was Jack, strutting about as if he had never been soused in all his life.

Ravens live to a great age, talk very well, are bold and sagacious, and defend their nests against all intruders, even vultures. They often attach themselves to other animals, and one which had been accustomed to receive food from a window every morning, in company with a dog, when the dog was ill and could not leave his kennel, always carried his breakfast to his sick friend.

Mr. Waterton's pet "Marco," is much too interesting a bird to be left out in this work, and I here abridge the account which that gentleman has given of him in his *Essays*: "Marco could do everything, was as playful as a kitten, showed vast aptitude in learning to talk, and was fond of seeing a carriage approach the house. He would attend company on their arrival at the bridge (the bridge which connects the island, on which Mr. Waterton's house stands, with the park), and wait near the gate until their return; and then he would go part of the way back with them. He was a universal favourite, notwithstanding that at times his evil genius prompted him to commit almost unpardonable excesses. One day he took a sudden dislike to an old duck, with which, until then, he had been upon the best of terms; and he killed her in an instant. The coachman and Marco were inseparable companions; but at last they had a serious and fatal quarrel. Marco bit him severely in the thumb; upon which, this ferocious son of the whip seized the bird by the throat, and deliberately strangled it."

Dr. Stanley says, that "a gentleman's butler, having missed a great many silver spoons and other articles,

without a suspicion as to who might be the thief, at last observed a tame raven with one in his mouth; and watching him to his hiding-place, discovered more than a dozen."

The landlord of an inn was in possession of a raven, which frequently went hunting with a dog that had been bred up with him. On their arrival at a cover, the dog entered, and drove the hares and rabbits from the thicket, whilst the raven, posted on the outside of the cover, seized every one that came in his way, when the dog immediately hastened to his assistance, and by their joint efforts nothing escaped.

"A raven which lived at the Elephant and Castle, formed a great intimacy with several of the coachmen who frequented that place, and frequently mounted on to the top of their coaches, and rode with them, until he met another friend driving homewards, when he would change coaches and return."—*Naturalists' Magazine*.

The *Saturday Magazine* gives a still stronger proof of attachment in a raven, which attended a dog with the utmost kindness, whose leg had been injured by the wheel of a chaise passing over it. "The dog was tied up under a manger, where Ralph, the raven, visited him, and brought him bones. The ostler said the bird had been brought up with a dog, and great affection subsisted between them; that the dog's leg had been broken, and during his confinement, Ralph waited on him, carried him his food, and rarely left him alone. He one night nearly pecked a hole through the stable door, which was shut, that he might rejoin his invalid friend; and this attachment made him fond of all dogs."

Another history of a raven's preference for a canine companion is thus given. "The latter was a large



THE RAVEN AND THE DOG.

otter-dog, and was kept chained up in a stable yard, where the raven began by occasionally snatching a morsel from the dog's feeding pan, before he had finished his meal. As this was not resented, the raven always attended at meal times, and occasionally took away a scrap in his beak, beyond the reach of the dog's chain, and then return with it, play about, and hang it on the dog's nose, and when the poor beast was in the act of snapping it up, dart off with it. At other times he hid the morsel under a stone, beyond the length of his chain, and then, with a cunning look, mounted upon the dog's head. He, however, always ended by giving the dog the largest portion, or the whole of the scrap thus played with. The life of this raven was saved by the dog; who, seeing the poor bird nearly drowned in a tub of water, dragged his heavy kennel till he could put his head over the tub, when he took the raven up in his mouth, and laid him gently upon the ground, where he soon recovered."

To Captain Brown's book I am indebted for the following anecdote, which is particularly acceptable to me, because it supports my assertions, that talking birds occasionally apply their acquirement in the most appropriate manner. In a work of mine (*Adventures in Australia*), I made use of this faculty, and was accused of exaggerating a bird's capabilities for the sake of my story. "One day, a person travelling through the forest to Winchester, was much surprised at hearing the following exclamation:—'Fair play, gentlemen! fair play! For God's sake, gentlemen, fair play!' The traveller looking round, to discover from whence the voice came, to his great astonishment, beheld no human being near. But hearing the cry of 'Fair play' repeated, he thought

it must proceed from some creature in distress. He immediately rushed into that part of the forest whence the cries came, when, to his astonishment, he beheld two ravens combating a third with great fury, while the sufferer, which proved to be a tame one belonging to a gentleman in the neighbourhood, kept loudly vociferating 'Fair play,' which so interested the traveller, that he instantly rescued the oppressed bird."

The North American Indians esteem ravens as much as the Dutch do their storks, and are as familiar with them as we are with dogs.

I have said that ravens will vigorously defend their nests from intruders, but on consulting Dr. Stanley's book, I find a charge against them of occasionally taking an antipathy to their young, which cannot be refuted; and it was an old belief that the newly-hatched birds, covered with down, were objects of their aversion till they acquired darker feathers. Hence the allusions made in the 147th Psalm, and the 38th chapter of Job.

Rooks are European birds; they are fonder of the larvæ of insects than of all other food, and are very useful by devouring them and worms, though sometimes, to get at them, they will pull up roots of grass, young wheat, etc., which makes them often unpopular. There is much more reason, however, to find fault with them on account of the number of cherries, pears, and young walnuts, which go down their throats. They are very systematic in their marauding excursions, establish sentinels in various directions, take wing upon the least alarm, and are very cunning in getting out of the way of a gun, seeming well to know the sight of this

weapon. They generally frequent the same spot all their lives, and it is very difficult to dislodge them from their abode, for they will, after an absence of two or three years, return to their favourite lofty trees. They rather court than shun the vicinity of man; and several rookeries exist in the most densely populated parts of London. Farmers have often driven them from their premises, under the idea of their causing so much mischief to their crops, but they have always had reason to repent of this act, for then their crops have failed from the depredations of worms.

Rooks are very wise birds, as this anecdote from Mr. Yarrell's pages will shew. "An old mansion, not far from London, was surrounded by a number of very fine elms, many of which had become very old, and it was therefore determined on by the owners to fell a few of them every year, and plant young ones in their place. The oldest of the trees were accordingly condemned, and a portion of the bark of each was taken off, to indicate which had been selected. These trees were soon forsaken by the rooks who had inhabited them; and it was subsequently observed, that immediately after any of the other elms were marked in a similar manner, the rooks forsook the trees, as if fully aware that the removal of the bark was a notice to quit."

These birds associate with jackdaws and starlings, often mingling flocks with the former; and a proof of their affection for each other is thus given by Dr. Percival, the author of "Dissertations." A large colony of rooks had subsisted many years in a grove on the banks of the river Irwell, near Manchester. One serene evening I placed myself within view of it, and marked with attention the various labours, pastimes, and

evolutions of this crowded society. The idle members amused themselves with chasing each other through endless mazes, and in their flight they made the air resound with an infinitude of discordant noises. In the midst of these playful exertions, it unfortunately happened that one rook, by a sudden turn, struck his beak against the wing of another. The sufferer instantly fell into the river. A general cry of distress ensued. The birds hovered with every expression of anxiety over their distressed companion. Animated by their sympathy, and perhaps by the language of animals, known to themselves, he sprang into the air, and by one strong effort reached the point of a rock which projected into the river. The joy became loud and universal; but, alas! it was soon changed into notes of lamentation, for the poor wounded bird, in attempting to fly towards his nest, dropped again into the river, and was drowned, amid the moans of his whole fraternity."

Like crows, rooks frequently hold councils, and punish delinquents; they seem to salute the return of the members of their community with loud cries, as if asking them for the news which they bring, and the chattering between the parties is abundant after each arrival. No one can form an idea of the noise of a fresh rookery but those who are in its vicinity; and yet they are pleasing neighbours.

"A clergyman who had a small rookery near his house, observed that when he walked near, or under the trees, they exhibited no signs of alarm; but when a stranger approached, they were evidently uneasy, and manifested, by their loud cawings and movements, their wish for his departure." The following is a still stronger proof of their attachment to human beings.

“A number of rooks built their nests upon some trees surrounding a farm, shortly after the occupier took up his residence there, and in three or four years it became a considerable rookery. The farmer then removed to a larger farm, and to his great surprise and pleasure, the rooks manifested such an attachment to him, that they deserted their habitation, and accompanied him to his new abode.”

The pert, noisy, active, and cheerful Jackdaw is an Asiatic as well as a European bird. Everywhere its character is the same; but perhaps it is worst thought of in India, because it is so often seen perched on the dead bodies which float down the Ganges.

Jackdaws are the boldest of the genus crow, and have a very remarkable “don’t care” look. They frequent high towers; some of their nests are placed on the loftiest parts of Windsor Castle, and they also get into hollow trees; a curious contrast to which habitations is a propensity to enter rabbit-burrows. Their depredations in the Botanical Gardens of Cambridge is an instance of their self-appropriating propensities. They helped themselves to all the wooden labels which were placed in the ground, and which bore the names of the plants, and eighteen dozen of these were afterwards found in the shaft of a chimney. They choose their mates for life, and do not live in large communities; they assemble, however, in flocks when cherries begin to ripen. “One or two will first arrive, and fly round and round at a great height above the garden,” says Mr. St. John. “After some chattering between themselves they fly away, returning some hours afterwards with the rest of their family, four or five in number; and if

not checked by a few charges of shot, these first intruders soon invite every jackdaw in the country to the feast, their numbers increasing every day."

For the following droll occurrence I am indebted to the pages of Captain Brown. "Mr. William Wright, a publican, at a village of Gilmerton, near Edinburgh, had a tame jackdaw. On one occasion half a glass of whisky was left on a table, when Jackie flew up, and, after the first taste, liked it so much, that he drank a quantity. In a few minutes symptoms of intoxication began to appear; his wings dropped, and his eyes were half closed. He then staggered in his walk in the most ludicrous way possible. He moved towards the edge of the table, probably intending to fly to the ground; but he had either lost the power of motion in his wings, or he was afraid to trust to them. He stood, seemingly meditating what he should do, all the while hanging like a drunken man about to lose his balance; till at last his eyes quite closed, and he fell on his back, with his legs in the air, exhibiting every sign of death. An attempt was made to put some water down his throat, but he could not swallow it. He was then rolled in a piece of flannel, put into a box, and placed on the shelf of a locked closet. All the family, with whom he was a great pet, never expected to see him on his legs again. Next morning, about six o'clock, the closet door was opened with the expectation of finding Jackie defunct; but he had extricated himself from the flannel, and as soon as the door was open he flew out, and made his way as quickly as possible to a basin-shaped stone, out of which the fowls drank, and copiously allayed his thirst. He repeated this several times during the day, and was not the worse for getting

drunk; but, with more forbearance than those who are endowed with reason, he never again would touch whisky."

M A G P I E S (*Pica*).

THE chattering Magpies, said by ancient poets to be women changed into birds, are as inquisitive and pilfering as the crow genus, and, if possible, more noisy; for, added to many other sounds, they scream loudly and often. In many parts of England, they are, in consequence of their supposed destruction of fruit and young game, considered as great evils, but this opinion is one of the accepted prejudices which a little experience disproves; and they ought rather to be favourites, from the beauty of their plumage, their fondness for their young, their drollery and cleverness. They are also birds of augury, and the appearance of one alone is thought to be an evil omen. Four seen together predict a funeral; and five foretell some dire calamity.

In Norway it is the custom to give the magpies a Christmas dinner, by placing some corn outside the house for them. In all countries they are on good terms with cattle, as they pick out the insects which lodge in their skin. The very extraordinary supposition that inconstancy in birds is often punished, of which I have spoken, and shall have again to speak, is said to have been realised among magpies, by the observations of a person, near whose house a pair of magpies had built their nest. "One morning early, during the absence of her mate, the female magpie flew into a neighbouring field, where she

was joined by a stranger of the opposite sex. The mate returned, and seeing his partner hopping about familiarly with another, he immediately darted upon them with the greatest fury, put them to flight, and followed them. Whether he killed his faithless wife is not known ; but she never re-appeared, and the deserted widower, after occasionally visiting his nest for a day or two, finally quitted it, and altogether disappeared."

From the same source I derive a proof of magpie sagacity. "A pair built a nest in a gooseberry bush, there being no trees in the neighbourhood. They frequented it for years, and as it was accessible to foxes, cats, etc., they not only barricaded the nest, but the bush itself all round with briars and thorns, in a formidable manner. Inside, the nest was soft and warm, but outside, was so rough and strong, and so firmly entwined with the bush, that, without a hedge knife, even man could not, without much pain and trouble, reach their young, the barrier from the outer to the inner edge being more than a foot in breadth. The nest was freshly fortified every spring with prickly sticks, which sometimes required their united forces to drag into the bush."

Lady Morgan, in her *Italy*, relates the following sad story: "A noble lady of Florence resided in a house which still stands opposite to the lofty Doric column, which was raised to commemorate the defeat of Pietro Strozzi, and the taking of Sienna. Cosmo I. lost a valuable pearl necklace, and a very young girl was accused of the theft. Having solemnly denied the fact, she was put to the torture. Unable to support the terrible infliction, she acknowledged she was guilty, and without further trial was hung. Shortly after, Florence was visited by a tremendous storm ; a thunder-bolt fell

on the figure of Justice, and split the scales, one of which fell to the earth, and with it fell the ruins of a magpie's nest, containing the pearl necklace."

From Mr. Ranson, I have the following history :
" A magpie, kept by a branch of our family, was noted for his powers of imitation. He could whistle tunes, imitate hens and ducks, and speak very plainly. Seated upon a toll-bar gate, he would shout ' Gate, ahoy !' so distinctly, as to draw out the keeper, who was generally saluted by a loud laugh when he answered the call. When the keeper's wife was making pastry, he would practise the same manœuvre, and if the trick were not detected, and the woman rushed out to open the gate, the magpie darted into the house, and speedily made his exit with his bill full of paste ; and he, in great glee, would chatter about it for some time afterwards. He would perch upon the backs of chairs, say he was hungry, or inform the juniors of the family it was time to go to school. He was allowed to run about, but was never out of mischief, and had a constant propensity to pilfer and hide small articles."

J A Y S (*Garrulus*).

IN consequence of having been seen to cross the sea in flocks of thousands, Jays are known occasionally to migrate. They and the kestrel are almost always at war with each other ; as well as the sparrow-hawk and the blue jays of the West Indies. The latter assemble in numbers, and annoy the hawk by every means in their power, attacking it and drawing it from its haunts

by imitation of its note ; for which the hawk now and then revenges itself by laying hold of, and devouring the fattest of its tormentors.

The jays of different countries vary much in their plumage, but all are very beautiful. In North-western Africa their blue and black feathers are worn as signs of mourning. Their technical name betokens their chattering propensities, and they rival the crow genus in their powers of imitation. They are, however, timid in character, until their young clamour for food, when they become impudent and thievish. They associate with their offspring until the time comes for building a new nest.

BIRDS OF PARADISE (*Paradisea*).

IN the southermost portion of the earth, where nature is often presented to us in forms very different to those which our eyes are accustomed to behold, lies the country of New Guinea, the interior of which is still unknown to us, but which, with a few of the small islands of the Indian Seas, affords us a race of birds, named, from their extraordinary beauty, Birds of Paradise. Their skins are given in barter by the ferocious inhabitants of these countries, who generally cut off the thick, coarse legs of the birds, because they deem them out of character with their delicate and yet brilliant plumage. All that is profuse, elegant, light, and rich in form and tint, may be found in this tribe ; some idea of which may be formed from the plumes worn by ladies. Hitherto we have not been so fortunate

as to possess them alive in England; but Mr. Bennett has given us an account of the great bird of paradise, which inhabited a large cage at Macao, in China, and which conveys a curious picture of conscious beauty in the feathered tribe; a beauty which can only be exceeded by the humming-bird, and which consciousness is said to be much less rare among animals than might have been supposed.

The wire of the cage gave the bird "abundance of room for the display of its gaudy dress, of which it seemed very proud, dancing about when visitors approached, as if delighted at being made an object of admiration. It washed itself twice every day, and threw up its delicate feathers nearly over its head. Nothing appeared to disturb it so much as any sort of dust attaching itself to its plumage; for at its toilet it pecked and cleansed all within reach, and, throwing out the elegant and delicate tuft of feathers underneath the wings, cleaned each in succession by passing it through its bill. Having completed its toilet, it would alter its usual cawing notes, and then look archly at the spectators, as if ready to receive their admiration."—*Wanderings in New South Wales*.

NUTHATCHES (*Sitta*).

THE beak of these birds is used as a regular pick-axe, with which they open the bark of trees in search of worms. They creep along the boughs as if they were mice, and have only one shrill note. Their tappings may be heard at some distance; and they dexterously

place nuts in the crevices of wood or bark, and then knock open the shells. We are told of one which was put into a large cage with a lark. Although severely wounded in the wing, he was extremely pugnacious; and he set all his wits to work in order to effect his escape; he tried the bars, loudly tapped the woodwork, and when he found it was all in vain, he turned so fiercely upon the more gentle lark, that it was necessary to separate them, and he was put into a separate cage. There he renewed his efforts; and the first sound heard in the morning was that of his knocking. Minced chicken, bread crumbs, and water were given to him, which he ate and drank with perfect coolness; and directly he was satisfied, he resumed his work, till the cage became pierced and worn, like a piece of old worm-eaten timber. He was particularly eager against the door, and once succeeded in opening it; and when it was again fastened, and a piece of string added, with a double knot, the latter was soon loosened. The hole which is left in the wires, opposite the drinking glass of ordinary cages, also attracted him, and he tried to push himself through; but not being successful, he endeavoured to enlarge the hole by pecking at it all round. He incessantly laboured, and ate in proportion, and the two together probably killed him. It was supposed he would cease at sunset; but he never rested more than ten minutes at a time, and continued till ten o'clock at night, when a fluttering in the cage, which had been covered with a handkerchief, proved something was wrong. He was found at the bottom of the cage, much convulsed, and all his feathers ruffled and turned up. After sundry revivals he breathed his last, to the regret of his captor; for his intelligence, his eye,

his assiduous labours, and his great fearlessness and familiarity, though mingled with fierceness, had inspired great interest.—*Mag. Nat. History.*

HUMMING-BIRDS (*Trochilus*).

I HAVE found it difficult to convey an idea of the beauty of birds of paradise; and now I come to these exquisite and tiny creatures, words seem to be still more inadequate to express their elegant forms and proportions, the dazzling lustre of their plumage, or the variety of their decorations. The feathers of their wings are stiff, and are in a state of incessant vibration, causing the noise from which they derive their name. Their flight resembles that of insects, and their young, when first hatched, are not larger than blue-bottle flies. It is chiefly on their heads, breasts, and bodies, that the metallic and jewelled splendour lavished upon them, exists; sometimes in patches, others in aigrettes, then again in diadems, and some have their legs encircled with the finest black, white, or fawn-coloured down, from which peep their feet, and which, it has been supposed, is a provision against the cold, for some inhabit the elevated neighbourhood of the Andes. They have long, narrow wings, which give them great power of flight; they never rest on the ground, and they have long tongues, which they dart forth with great rapidity to catch the minute insects, which form the larger portion of their food. They are all natives of the New World, are very fearless of man, but they cannot bear confinement; they migrate to different parts of the same continent,

and mount as high as 15,000 feet up the Andes. It has been often said that small animals of all kinds, not excepting unfeathered bipeds, have strong fighting and quarrelsome propensities; and the saying is certainly verified by humming-birds. None exceed them in their combative habits; they get into a rage with each other on the smallest provocation, and fight with a determination and perseverance which often proves fatal to one party.

Mr. Gosse describes two Mango humming-birds nearly in the following words: "A Mango humming-bird had every day, and all day, been paying his devoirs to the charming blossoms of the Malay apple (*Eugenia Malaccensis*), when another came. They chased each other through the labyrinth of twigs and flowers, till one would dart with seeming fury upon the other; and then, with a loud rustling of their wings, they would twirl together, round and round, until they nearly came to the earth. It was difficult to see what took place in these tussles; their twirlings were so rapid. At length an encounter took place close to me, and I perceived that the beak of the one grasped the beak of the other, and, thus fastened, both whirled round and round in their perpendicular descent, the point of contact being the centre of the gyrations; till, when another second would have brought them both on the ground, they separated, and the one chased the other for above a hundred yards, and then returned in triumph to the tree, where, perched on a lofty twig, he chirped monotonously and pertinaciously for some time; I could not help thinking in defiance.

"In a few minutes, however, the banished one returned, and began chirping no less provokingly, which

soon brought on another chase and another tussle. I am persuaded that these were hostile encounters, for one seemed evidently afraid of the other, fleeing when the other pursued, though his indomitable spirit would prompt the chirp of defiance; and when resting after a battle, I noticed that this one held his beak open as if panting. Sometimes they would suspend hostilities to seek a few blossoms, but mutual proximity was sure to bring them on again. A little banana quit, that was peeping among the blossoms in his own quiet way, seemed now and then to look with surprise on the combatants; but when the one had driven his rival to a longer distance than usual, the victor set upon the unoffending quit, who soon yielded the point, and retired, humbly enough, to a neighbouring tree. The war, for it was a thorough campaign, a regular succession of battles, lasted fully an hour: and then I was called away from the post of observation."

I continue to quote passages which are so highly illustrative of these interesting birds. "I suppose I have sometimes seen not fewer than a hundred come successively to rifle the blossoms, within the space of half as many yards, in the course of a forenoon. They are, however, in no respect gregarious; though three or four may be at one moment hovering round the blossoms of the same branch, there is no association. . . . We often found the curiosity of these little birds stronger than their fear; on holding up the net near one, they frequently would not fly away, but come and hover over the mouth, stretching out their neck to peep in, so that we could capture them with little difficulty. Often, too, one, when struck at unsuccessfully, would return immediately, and suspend itself in

the air, just above our heads, or peep into our faces with unconquerable familiarity. Yet it was difficult to bring these sweet birds, so easily captured, home; they were usually dead or dying when we arrived at the house, though not wounded or struck; and those that did arrive in apparent health usually died the next day. At my first attempt, I transferred such as I succeeded in bringing alive, to cages, immediately on their arrival at the house, and, though they did not beat themselves, they soon sank under the confinement. Suddenly they would fall to the floor of the cage, and lie motionless with closed eyes; if taken into the hand they would perhaps seem to revive for a few moments; then throw back the pretty head, or toss it to and fro, as if in great suffering, expand the wings, open the eyes, slightly puff up the feathers of the breast, and die, usually without any convulsive struggle."

Mr. Gosse brought some very young ones, not fully fledged, to his house, and turned them into an open room, carefully securing the doors and windows; he fed them with flowers, especially the *asclepias curassavica*. He then put some pieces of the sugar-cane into a bottle, introduced a quill through the cork, covered the cork with a flower, and the bird eagerly sucked up the juice; soon he sucked it out of the bare quill, and by such means Mr. Gosse succeeded in keeping humming-birds for a long time. The boldest of them was rather pugnacious, attacking his gentler companion, who yielded and fled; then he, assuming courage, played the tyrant in his turn, actually preventing the former from sipping out of the sweetened cup.

The inquisitive spirit of the humming-bird is greater, in proportion to its size, than that of other birds; and

when struck at, it will return in a moment and peep at its pursuer, from mere curiosity, which seems to overcome every other feeling.

The name given by Indians to humming-birds has always struck me as very appropriate; they call them "beams," or "locks of the sun," and the ancient people of those countries used their feathers for embroidery. That they inhabit cold as well as hot latitudes, the elevation at which they are found will shew; and they go so far south, that Captain King saw many of them, quite happy and lively, in a snow storm, in the Straits of Magellan; nevertheless, we are told that continued cold will make them torpid. Some few are gifted with song, but their general cry resembles two boughs scraping together. Of twenty-five taken by Mr. Gosse, only seven were tamed, and these varied much in disposition. One became so familiar as to be an annoyance, perching upon him at all times, darting its beak into his mouth, etc. He soon taught it to obey a peculiar sound, made with his lips, into which he had taken syrup, which it instantly sought. The tongue is very curious; for it consists of two tubes, which are separated a short distance from the tip, at which part they are flattened, and they can dart this tongue out to a great distance, and as suddenly retract it. They creep under spiders' webs to look for insects; but the spiders soon cause them to retreat.

For some years, Mr. George Loddiges, of Hackney, amused himself by making the finest collection, which Europe could boast, of these birds; and it was at his house that those who had never seen them in the western world, could form a notion of their extraordinary beauty; his work upon them, his beautiful arrangement, the exquisite nests, the attitudes in which he placed them, could

only be surpassed by the living birds ; and to pay a visit to this assemblage of beauty and skill, and converse with the owner, was one of the intellectual feasts which England alone presented. But this excellent and talented man was overtaken by an illness which terminated fatally ; and the collection of Mr. Gould, the eminent ornithologist, has now surpassed that of Mr. Loddiges : it amounts to more than two thousand birds, three hundred of which are different species, exquisitely and scientifically arranged, which are exhibited in the Zoological Gardens, and many who see them there will doubtless wish, as I do, that England should not lose this unrivalled assemblage of one of the most beautiful parts of creation.

KINGFISHERS (*Alcedo*).

As far as colour goes, the plumage of Kingfishers is not to be surpassed, but they have little of the metallic lustre of the humming-birds, and wholly want their elegant form ; perfectly adapted to their wants, however, are their large, thick beaks, which seem out of proportion to their bodies ; and doubtless that appendage which makes inferior animals look so graceful, the tail, would be in their way. Tropical kingfishers are splendidly clothed, and many of them have blue and black crests on their heads. A daring and rapacious species inhabits New Holland, which the settlers call “ the Laughing Jackass,” in consequence of its strange cry, which is very discordant. When one bursts into a sort of laugh two or three follow, as if in answer, till the whole neighbourhood rings with them, at early morning, and late in the evening.

The common Kingfisher of Europe is a handsome, familiar bird, and is generally found among the reeds by the sides of rivers. A gentleman was fishing in the Lea, and saw a poor kingfisher, which did not attempt to fly from him; he desired his attendant to catch it, and carry it to his lady, who was sitting and reading in a boat, not far off. The man obeyed; and his mistress, thinking that the little creature might be hungry, desired him to give her one of the minnows which had been provided for baits; she laid it in her hand, and the half-starved kingfisher ate it with avidity; she gave it another, and then the grateful creature, quite invigorated, looked up at her, as it perched on her hand, chirped some loud notes, as if to thank her, and flew away.

The Belted Kingfisher of Jamaica sits by the river side, patiently waiting for the approach of some small fish, on which he drops perpendicularly, and, having seized it in his powerful beak, emerges from the water, and returns to his former station to swallow it. He easily takes alarm, and dives completely into the river. Two once seized upon the same fish, nearly at the same moment, and, rising with it into the air, each tugged in a contrary direction, until the grasp of one gave way, and the other flew off with the prize.

Mr. St. John mentions, what is a very rare instance, of the kingfisher being found in Scotland. "He was darting like a living emerald along the course of a small unfrozen stream; then suddenly alighted on a post, and remained a short time motionless, in the peculiar, strange attitude of his kind, as if intent on gazing at the sky. All at once a new idea came into his head, and he hovered here and there like a hawk, at the height of a yard or so above the water; suddenly down he dropped

into it, disappeared for a moment, and then rose into the air with a trout of about two inches long in his bill; this he carried quickly to the post where he had been resting before, and, having beat it in an angry and vehement manner against the wood for a minute, he swallowed it whole."

The ancient name of the kingfisher was Halcyon, or Alcyon; and it was, long ages ago, invested with the power of quelling storms. It was also believed, that whilst the Halcyon was hatching her eggs, sailors might safely venture to sea; and from this we derive the expression of "Halcyon days." Shakspeare alludes to another tradition; that if a dead kingfisher be well balanced, and hung up by a single thread, it always turns its beak towards that point of the compass from which the wind blows.

HORNBILLS (*Buceros*).

THE monstrous bills of these birds, almost looking like deformities, are full of nerves, and it is supposed these strange excrescences are given to assist them in feeling for their prey, which is of various kinds, such as reptiles and their eggs, fishes, insects, carrion, and vegetable substances. Among the latter they show a great preference for spices, and, above all, nutmegs, which impart a flavour to their flesh, and render them delicious eating. If a snake be concealed under ground, the Hornbill will be aware of its existence, and open the earth till it is uncovered. They are Asiatic and North African birds, but never numerous anywhere;

and a strange opinion is entertained in some places about their flesh, which is, that, when applied hot to the part affected, it will cure a variety of disorders.

The bones of these birds contain more air than those of any others, and they fly like crows; they throw their food up into the air, and catch it as it falls, when they swallow it whole. They make a great noise with the strokes of their wings and the clattering of their mandibles; and a great roaring proceeds from them, supposed to be caused by the air rushing into the large hollow protuberance in their beak; and it has been suggested that this is their call note.

CLIMBERS (*Scanseros*).

THE habit of climbing trees, which is generally practised by the birds of this order, has procured for them the above name. Their feet are well adapted to this mode of procuring food, consisting of insects or fruit; for they have two toes before, and two behind, which formation enables them to place a firm grasp on every thing which they ascend, and in which they are also assisted by their beak.

WOODPECKERS (*Pica*).

WOODPECKERS may be heard in the woods, tapping the trees with their beaks, to frighten the insects, which then issue from under the bark, and are secured by the clammy juice which lies upon their spiny tipped tongue.

The systematic way in which they make their nests is thus described by Wilson. "Having pitched upon a tree, they reconnoitre it minutely for several days, and then the work is first begun by the male, who cuts a hole with his powerful bill in the solid wood, as circular as if described by a pair of compasses. He is occasionally relieved by the female, both parties working with the most indefatigable diligence. The direction of the hole, if made in the bottom of the tree, is generally downwards, in a sloping direction, for six or eight inches, and then straight down for ten or twelve inches; within, it is roomy, capacious, and as smooth as if polished by the cabinet maker, and the entrance is judiciously left just so large as to admit the body of the owner. During this labour they regularly carry out the chips, often strewing them at a distance, to prevent suspicion. This operation sometimes occupies the chief part of a week. The female, before she begins to lay her eggs, often visits the place, passes out and in, examines every part, both of the exterior and interior, with great attention, as every prudent tenant of a new house ought to do, and at length takes complete possession."

"A clergyman, travelling in Turkey, was performing quarantine in a village, he having passed through a district in which the plague was raging. He was in a wretched apartment, and had nothing to interest or amuse him during his tedious imprisonment, everybody keeping at a distance for fear of infection. One morning, while at breakfast, a bird of the woodpecker species flew in at the window with all the familiarity of an old friend, hopping on the table, and picking up the crumbs and flies. It had belonged to a young girl just buried, and by a singular instinct, left the house of the

dead, and flew into his room. Its habits were cautious, and yet so familiar that they were quite attractive. It climbed up the wall by any stick or cord near it, devouring flies. It sometimes began at the gentleman's feet, and at one race would run up his leg or arm, go round his neck, and down his other arm, and so to the table. There it would tap with its bill, making a noise as loud as a hammer, and this was its general habit on the wood work of every part of the room in search of insects, which it devoured as soon as they appeared."

CUCKOOS (*Cuculus*).

THE habits of this yearly, but brief visitor to our woods, long puzzled ornithologists; but patient observation has at last developed the mystery. Their short stay in England would scarcely give them time to build a nest, and hatch their eggs; so they lay the latter in the nests of others, chiefly those of the hedge-sparrow, titlark, whitethroat, and wagtails, where they are brought to life by the unconscious foster-parents, generally to the destruction of their own offspring. The Cuckoo, when it comes out of the egg, is, of course, larger than the young of the owner, and the nest scarcely affords room for all; therefore, the cuckoo, being the largest and most powerful, remedies the inconvenience by tossing the others out. To facilitate this, it is born with a depression between the shoulders, it creeps under the little nestlings till they are lodged in this hollow, then lifting itself up, even with the edge of the nest, they are soon thrown over. Its restlessness to get rid of its

companions continues till this hollow is filled up, which is about the twelfth day, and if any survive till then, they are safe. Should there be two cuckoos in one nest, they fight till one, being overcome, is disposed of as the others have been. They never live long in confinement, but in a rare instance of successful nurture, the manners of the prisoner were very engaging. It was particularly fond of hairy caterpillars, and almost equally pleased with a very small and young mouse, which it beat till quite soft, and then swallowed. On dissecting a cuckoo, the operator found the whole stomach lined with caterpillar-chiefly hairs. But to return to the captive cuckoo: it was fed with hard-boiled eggs, but never drank, though it sipped up a drop of water from the end of a straw, or the tip of a finger, and was fond of putting its beak into the mouths of those who allowed it to do so, to seek the saliva. It would sit upon the fender, turn itself round, spread out its feathers to receive a heat of 100° with satisfaction, slept at night in a piece of flannel, which was warmed before it was wrapped round it, and occasionally would creep under the bed-clothes. Although cuckoos are very fierce and pugnacious, this one only seemed to dislike or fear those who had teased it, and then it raised its neck-feathers and assumed an attitude of defence. It never uttered the cry of "cuckoo;" but when persons around it were laughing, it apparently joined them, by making a noise like the barking of a little dog. At other times it uttered a low, chattering sound of pleasure, when it found a warm place, or when its mistress returned after an absence of some hours.

Mr. Hoy, of Stoke by Nayland, says, "I had observed a cuckoo, during several days, anxiously watching a pair

of wagtails building. I saw the cuckoo fly from the nest two or three times before it was half completed; and at last, the labour of the wagtails not going on, I imagine, as rapidly as might be wished, the cuckoo deposited its egg before the lining of the nest was finished. The egg, contrary to my expectation, was not thrown out; and, on the following day, the wagtail commenced laying, and, as usual, the intruder was hatched at the same time as the rest, and soon had the whole nest to itself. I once observed a cuckoo enter a wagtail's nest, which contained but one egg; in a few minutes, the cuckoo was flying away with something in its beak, which it dropped on my firing a gun at it. On examining the nest, I perceived that the cuckoo had only made an exchange, leaving its own egg for the one taken."

Ancient doctors ascribed medicinal virtues to the flesh of the cuckoo, one of the most amusing of which was, its being an antidote to fleas, and it was asserted that, when first heard, if the listener circumscribed his right-foot, and dug up the earth on which it rested, not a flea would be hatched wherever that earth was scattered. Both Aristotle and Pliny praise the flavour of the flesh, and the Italians still eat it, as they do most birds.

It is worthy of remark, that, in general, the cuckoo's song begins and lasts all the time that the mackerel is in full roe; that is, from April to the end of June, though occasionally the male has been heard in July; its notes then become broken, and it departs. The young ones go in September.

Mr. Gosse speaks of several species of cuckoo seen by him in Jamaica, two of which are called Rain-birds. One of them is also nick-named "Tom Fool," on account

of its preferring to satisfy its curiosity, rather than provide for its safety.

The Honey Guide is a species of cuckoo, whose habit of inviting men to a hive of honey, and patiently waiting for the portion they are pleased to give it, is well known.

Dr. Stanley is of opinion, that young cuckoos have some peculiar quality, which enables them to gain the affections of other birds of a different species; as a proof of which, he tells us, that a "young cuckoo was put into a cage, and, a few days after, a scarcely fledged thrush was also put in. The latter could feed itself; but the cuckoo was obliged to be fed with a quill. In a short time, however, the thrush began to feed its fellow-prisoner, bestowing every possible attention, and manifesting the greatest anxiety to satisfy its continual craving for food."

A still more curious story is told by the same author, which, like a great many other histories of birds and beasts, will find its parallel in human life: "A young thrush, just able to feed itself, was placed in a cage. A short time after, a young cuckoo, which could not feed itself, was placed in the same cage, and fed by the owner. At length it was observed that the thrush fed it; the cuckoo opening its mouth, and sitting on the upper perch, and making the thrush hop down to fetch its food. One day, while thus expecting its supply, a worm was put into the cage, and the thrush could not resist the temptation of eating it, upon which the cuckoo descended, attacked the thrush with fury, and literally tore out one of its eyes, and then hopped back. Although so lacerated, the poor thrush meekly took up some food, and continued to do so till the

cuckoo was full grown." Will not the reader be reminded of the old story of the boy who bit off his mother's ear?

PARROTS, PARROQUETS, ETC. (*Psittacus*).

I do not know anything more striking to the traveller in tropical countries, than the freedom and abundance of those living creatures which, in England, have only been seen as rarities, or in confinement; and I shall never forget the sensation with which I first beheld hundreds of Parrots, flying above me, and perching upon the tops of trees, while monkeys were climbing after them. The scene was, at first, so difficult to realise, that I was quite undisturbed by the tremendous chattering and screeching which attended the congregation of such animals. It was fated that the noise of the parrots should pursue me after I quitted their native region, for the vessel in which I returned to England the first time, contained upwards of three hundred of these birds, they having been easily purchased by the sailors, at the cost of a handkerchief, a knife, or some trifling article of clothing. Short was our nightly repose, for it was long after sun-down before these feathered passengers would settle themselves in the hen-coops which formed their abode; and they renewed their clamour at the first approach of dawn. Many died when they came into cooler latitudes, for their birth-place was equatorial, and were eaten, as I have elsewhere said, by my panther: and yet there seemed to be a numerous company to pass through the custom-house; they were all grey, with red

feathers in their wings and tails, and this species has the reputation of talking better than any other parrots.

The steward of the ship had several, and among them was one remarkable for its size and beauty, and was kept in a wire cage, taken from England for the express purpose of containing a handsome parrot, which he designed for a present. He commenced its education immediately, and it was an apt scholar; making more rapid progress when (partly on account of the cold, and partly to avoid the monkey, which upset the cage, stole the sugar, and endangered its life,) it was moved below, away from the screams of its companions, and hearing only human sounds. It soon acquired phrases, whistled tunes, and imitated voices as well as words so well, that I many times went down the companion stairs to answer the summons which I thought I had received. It was particularly attentive to the accents of a little cousin of mine, going to England for education under my charge, and whose conversation it was constantly endeavouring to repeat. This little boy had a native servant to attend him, who one day stole some candles, not for the sake of procuring light, but as a *bonne bouche*; and which theft was soon discovered by the steward. A disturbance ensued; and when the parties were a little more calm, the child rushed to me, exclaiming in his broken language, "Meä friend! Meä friend! Hauboo's a tief, he steal a candles, and he—he—he (stammering in his eagerness) and he eat 'em." Of course Hauboo's delinquency received due comment from me, and the child repeated the circumstance more than once; so, in the evening, when all was quiet, I heard the parrot repeating, "Hauboo's a tief," in low tones; then it seemed to mutter something to itself, then out came the candle

part of the story, and just as I was going to bed, the finale was attained, "and he—he—he eat 'em," was stammered out with a scream of triumph. For days after, no one went near the bird but it whispered, "Hauboo's a tief," in variously modulated tones, and then burst forth with the devouring of the candles, as if it knew it to be the climax.

There is nothing much more droll than to see a monkey attack a parrot in a cage; he desiring to pull out Poll's tail-feathers, that he may suck the quills, and the bird trying to avoid him, endeavouring always to face him, turning round as he does, trying to bite the fingers of the tormentor; which, however, are never inserted when Poll's head is towards him, for he well knows what a squeeze he would get; while she turns round, making efforts to peck at him, but apparently bowing with extreme politeness.

To the aptitude with which parrots and other talking birds apply their acquirements, I have already slightly alluded; and I here give some further examples which have come to my knowledge from undoubted sources, or in which I have had personal experience. My readers can judge for themselves, how far the birds were conscious that what they said was adapted to the circumstances.

One of my earliest recollections was a grey parrot, belonging to an old lady who had taken charge of my mother's childhood, and which had been presented to her by her husband. This parrot had lost one of its legs, and no sooner did any one remark this, or ask how it had been lost, than it replied, "I lost my leg in the merchant's service; pray remember the lame." It was frequently hung up in its cage, outside the house, where its great delight was to whistle the dogs round it, and

stop the teams of horses which went past, or make them go on when they stopped, which they frequently did as they mounted the hill where it lived, on all which occasions it chuckled and laughed with delight.

In the same country town lived a famous parrot, supposed to be very old, of which I used to hear extraordinary stories, all now forgotten, except the following. Its master and mistress had a tea-party, followed by cards. The parrot, which had been vociferous for cake while it was handed round, at last, as it was thought, settled itself to sleep in a corner, where its cage stood. The whist parties were formed, and but little talking ensued; the silence, however, was broken when the moment of reckoning arrived; the losings and winnings were disputed, and points were discussed; great excitement took place, and passion had already begun to manifest itself, when, to the astonishment of every one, the parrot exclaimed in a loud voice, "Curse your cards, ladies." The squabble was stopped, a sort of awe crept over the party, and an amicable arrangement took place, which was cemented by supper. The story, however, spread; and it was observed, that there was, for some time after, a greater degree of moderation on similar occasions. My mother was a witness of the whole scene; and from her I have heard of another parrot which was clever enough to call the cat when it had anything to eat which it did not like; for instance, the crust of toast, and if "Puss, Puss," were not sufficient, used the most coaxing terms to induce it to come under the cage, when the rejected morsel was dropped on the floor. This artifice is sometimes used in cases of fear, as I once saw a cat with eyes fixed on a parrot, evidently having an intention of springing on the poor bird, which was chained to a pole;

and which tried to avert the mischief, by saying, "Dear Puss, pretty Puss," incessantly, all the time keeping its eye fixed upon the enemy.

A certain plumed Jacko, an African parrot, belonged to an acquaintance of mine: and I witnessed his powers, during the stay of a day or two, with his mistress. He was rather treacherous; for he would suffer me to caress him, and appeared gratified at my notice, so long as his owner was in the room; but I happened one day to take him into my finger in her absence, and he then gave me a bite which left a scar for years. He always came on the dinner table with the dessert, when he would play various antics; and at last a dish was emptied, into which he laid himself upon his back, put his head on one side, and exclaimed, "Jacko's dead." He was then covered with a d'oyley, and never presumed to move till his mistress called him to life again. He was very destructive; on which account he was never suffered to leave his cage, unless some one was present to watch him. A strange housemaid, however, arrived while I was in the house, and as she had not received any caution to the contrary, obeyed his earnest intreaties to be let out while she was dusting the drawing-room; and, as he resisted all her efforts to get him back to his cage, she left him, and closed the doors of the room. His mistress, some little time after, found him on the hearth-rug, surrounded by the fragments of a very valuable book of engravings, and tugging with all his strength at the rich covers of gold and crimson. He was scolded, beaten, and put back into his cage, where he remained the rest of the day, without eating or speaking, though frequently intreated to do both. Evening arrived, and then he cried, "Jacko wants to go to bed." The usual

covering was thrown across his cage, and, to our surprise, instead of going to sleep, he muttered to himself the whole of the scolding which he had received ; beginning with “ Naughty Jacko ! Wicked bird ! How dare you do such mischief ? Ah ! I’ll punish you,” etc. ; but which he was not heard to utter again. This seemed to be his time for practising his accomplishments ; and we were startled another evening, by hearing him imitate the low and gentle voice of my mother, together with a little peculiarity of emphasis, which he had caught to perfection, and which he had heard for the first time that morning.

All animals are jealous ; and none more so than parrots. One belonging to a young friend of mine, was miserable when she took charge of a canary for a friend, who was to be absent for some time. From the first moment Poll saw her caress the stranger, she became sulky, would not speak, scarcely ate during the first few days, and not only turned her back upon her mistress, but tried to bite her. The canary, one fine sunny morning, was hung up at the window to enjoy the warmth, and, in its delight, burst forth into one of its sweetest songs. The parrot listened attentively, with her head on one side, till the little warbler paused ; when, in the most patronising tone possible, she exclaimed, “ Pretty well ; pretty well ! ” and then, as if in spite, she vociferated the most contemptuous “ Ha ! Ha ! Ha ! ”

This same lady’s brother had also a parrot, who was very jealous of a much smaller bird than himself, on whom his master lavished many caresses. They were placed in a room next to the gentleman’s bedchamber ; and one night he was awakened by the screams of his little favourite. He immediately rose, and went to its

cage with a light, but it was too late; the parrot had by some means unfastened the door of his cage, and going to that of the smaller bird, put his claws between the bars, dragged it to the side, and was tearing it to pieces.

I was told of a parrot the other day, that had been accustomed to breakfast on oatmeal-porridge; but, on a recent occasion, the oatmeal was exhausted, and, from negligence, had not been renewed. Accordingly, some soaked bread was put into the bird's saucer. He looked at it for some time, tasted it once or twice, sat and apparently considered the matter, and then, dashing his bill in, he threw it all out, first on one side and then on the other, saying, between each sputtered mouthful, "Nasty mess! nasty mess!" The same bird heard a lady say, "Oh dear! I have lost my purse!" and immediately exclaimed, "How *very* provoking!"

A grey parrot of much fame once existed in Norfolk, which evinced the greatest affection for his mistress; knew her servants, always appealed to one of them when in trouble; also knew several of her friends, addressed them by their names correctly, and asked them to walk in; told the dog of the house to go off the rug and go to bed; and one day, hearing a gentleman argue with his mistress, as to whether a shell in her collection were fossil or recent (on which occasion, the gentleman became a little warm), he cried out, "Put it down, Sir, you know nothing about the matter." At one time, his mistress took care of a green parrot belonging to a friend, who was going away from home; and instead of being jealous, which was remarkable, he talked to his visitor, saying, "How do you do, Miss Polly Green? Shall we whistle a little, and dance a little?" He

lived twenty years with the same lady, and died of a second attack of paralysis.

A curious old story is told in Captain Brown's book, without any clue to its date; its ludicrous tendency being the temptation to copy it here.

"A tradesman who had a shop in the Old Bailey, opposite the prison, kept two parrots, a green and a grey. The green parrot was taught to speak when there was a knock at the street door; the grey whenever the bell rang; but they only knew two short phrases of English. The house in which they lived had an old-fashioned, projecting front, so that the first floor could not be seen from the pavement on the same side of the way; and on one occasion they were left outside the window by themselves, when some one knocked at the street door. 'Who's there?' said the green parrot. 'The man with the leather,' was the reply, to which the bird answered, 'Oh, oh!' The door not being opened, the stranger knocked a second time. 'Who's there?' said green Poll. 'Who's there?' exclaimed the man. 'Why don't you come down?' 'Oh, oh!' repeated the parrot. This so enraged the stranger, that he rang the bell furiously. 'Go to the gate,' said a new voice, which belonged to the grey parrot. 'To the gate?' repeated the man, who saw no such entrance, and who thought the servants were bantering him. 'What gate?' he asked, stepping back to view the premises. 'New-gate,' responded the grey, just as the angry applicant discovered who had been answering his summons."

Of all Parroquets, the Alexandrian is the most beautiful, with its long green tail, the ring round its neck, and its rose-coloured beak. I lived for weeks

with one which was sent home by M. Alfred Duvaucel, the naturalist traveller, to his sisters. It talked very well, repeated its master's name distinctly, and its morning salutation was always "*As tu dejeuné, ma Cocotte?*" Cocotte being its own name; and this being a gentle hint that it wanted to be fed. When we were writing, it would fly noiselessly over our shoulders, poise itself for a moment, and then draw the pen from between our fingers, leaving us with ink marks on them, and exceedingly delighted if we would chase it about the room; but if we sat still for some little time, it dropped the pen. It sat upon a perch near the window, and when we put on our bonnets, if that were open, would dart out of it, meet us at the garden door, accompany us for a short distance, and then fly back.

The small green and orange Parroquets of Western Africa, called Love-birds, from their great attachment to each other, are really as affectionate as they are reputed to be. They associate in pairs, and if one die, the other will pine itself to death; and if one be hurt, or ill, its companion will attend to its wants with perfect and untiring devotion.

Macaws are splendid birds, and also speak well. Several favourites of this tribe, and among them a beautiful blue and yellow macaw, belonged to Dr. Neill, of Edinburgh, of whom I have already spoken. They made such an intense noise as the dishes were carried from the kitchen to the dining-room, where a large party was assembled, that their master was obliged to cut slices for them and the cats, before he could help his guests; and when the cheese was put on the table,

a much better behaved parrot, of whose presence I had not been previously aware, came from the top of a screen in the corner, and walked round to be fed. Presently, in hopped the bustling macaw, who immediately mounted on to the table, making a great chattering, on which the wise old parrot quietly retreated to his screen. The macaw, with perfect impudence, then insisted on receiving something from each one of the party, amounting to nineteen; only his master could take him away, that the dessert might be spread; and even then he was bribed with some fruit, exactly in the manner of a spoiled child sent to the nursery. A brother-in-law of mine has a remarkably droll and clever macaw, but unhappily he has been taught to use language which is not refined, and to swear; he is therefore banished from the drawing-room; he, however, now and then finds his way up stairs, and, before any one knows he is by, brings in his phrases so as to suit the conversation, in a manner that at first startles, but at which it is impossible not to be amused.

Of the attachment of a Cockatoo, a friend has given me the following instance. He belonged to a lady who had for some time been in ill health, during which period the bird had been allowed to remain in her room. At last she became so ill that he was, of necessity, banished from her presence, and placed in a passage; where, all others being occupied with the invalid, his only companions were the servants, who occasionally passed through. If one of the family came near, it was quite affecting to hear the poor bird's efforts to be noticed, repeating all the words he had learned, and inviting caresses. The lady lingered some time, and one day, as

she lay in her bed, a noise was heard on the stairs; the door of her apartment was open, and there came the cockatoo, who had broken his chain, and found his way to his mistress. His delight at seeing her was the most touching possible; he flew on to her bed, nestled close down to her, fondled her with his beak, and when at last her exhausted strength rendered it necessary that he should be removed by force, his screams were heard all over the house.

Another friend thus writes to me: "Our cockatoo was put upon the grass among the tame rabbits; but the tame rabbits here have a large range, and burrow for themselves in the hill-side; the garden being sacrificed to the warren. Seeing a new creature, white, like itself, one of the least tame rabbits went up to it, in order to make it out. When close to Cocky, the bird shouted in its ear, 'What's your name?' much to the discomfiture of the rabbit, which scudded off as if a gun had been fired at it. There were rabbits on the green so accustomed to human hands and voices, that they would have thought such an address very natural, but this was a wildish member of our community."

I close these anecdotes of the parrot tribe with Lieut. Edwards's droll description of a party of birds, which he had on board the vessel in which he was returning from a voyage up the Amazon, in which parrots and parroquets take the most prominent part.

"The necessity for setting up a family government was hourly more urgent. The macaw, no wise contented with his elevation on a cross above, had climbed down, and was perpetually quarrelling with a pair of green parrots, and all the time so hoarsely screaming, that we were tempted to twist his neck. The parrots had to

have a pitched battle over every ear of corn, and both they and the macaw had repeatedly flown into the water, where they but narrowly escaped a grave. There were two green parroquets, and one old one, prettiest of all, with a yellow top, and they could not agree any better than their elders. Yellowtop prided himself on his strength, and considered himself as good as a dozen green ones; while they resented his impudence, and scolded away in ear-piercing tones, that made the cabin an inferno. At other times they all three banded together, and trotting about deck, insulted the parrots with their impertinence. When a flock of their relations passed over, the whole family set up a scream, which might have been heard by all the birds within a league, and if a duck flew by, which was very often, our goose would call in tones like a trumpet, and the guan would shrilly whistle. When we came to the shore, we were obliged to shut up our *protégés* in the *tolda*, or they were sure to scramble up the nearest limb of a tree, or fly into the water, and swim for the bank. Really, it would have troubled a Job, but we could see no relief.....Our noisy additions from Santarem made longer endurance out of the question; and, after long threatening, at last we succeeded in setting up the family government. As the first overture thereto, a rope was crossed a few times in the *tolda*. Upon this the arara and parrots were placed, with the understanding that they might look out of the door as much as they pleased, and be invited there at regular hours to their meals, but that further liberties were inadmissible and unattainable, so there they sat, not knowing whether to laugh or cry. The parroquets were stationed at the after part of the cabin, and the change which

had come over one of the green ones from Barra was amusing. She had been the wildest and crossdest little body on board, always resenting favours, and biting kindly hands. But since the lately received young ones had been put with her, she had assumed all the watchfulness of a mother, feeding them, taking hold of their bills, and shaking them to promote digestion, and generally keeping them in decent order. She had no more time to gad about, with the feathers of her head erect; and matronly, she stuck to her corner, and minded her own business. Meanwhile, Yellowtop looked on with the calm dignity of a gentleman of family."

GALLINACEÆ.

THE type of this order is the Cock, from whose Latin appellation, *Gallus*, it derives its name. All the families which compose it have a certain resemblance to this bird: they walk heavily, and their flight is laboured; their crop is very large, and their gizzard very strong; their wings are short, and their arched beak is well calculated to devour grain, which is their principal food.

TURKEYS (*Meleagris*).

THERE has been much dispute among the learned in such matters, whether the ancient epicures knew the Turkey. Naturalists, however, have ascertained the fact, that what has been mistaken for them were Guinea

fowls. We owe the turkey to America ; and Audubon gives a highly interesting description of them in their native condition. There cannot be a handsomer bird than the species which is found in Honduras, both for plumage and dignity of appearance. Although it is amusing to see the consequential and measured step of the male turkey, when, setting intruders at defiance, he swells out his feathers, spreads his tail open, and slowly struts along, making his peculiar and disagreeable cry ; it is by no means all amusement, for, if the stranger approach too near, he is quite capable of, and willing to inflict severe blows.

In their native state, turkeys grow to a large size ; and a curious feature in the character of the males is, that they seek their young ones for the purpose of destroying them ; in consequence of which, the females endeavour, as much as possible, to avoid them, and they and their broods, sometimes amounting to seventy or eighty, congregate apart from the fathers of their offspring. They migrate in vast numbers from one part to another for the sake of food, the principal of which is the mast of the beech-tree ; and when they come to a river, they station themselves upon the neighbouring trees for a while, as if to contemplate the undertaking ; they then descend to the ground, each sex spreading out their tails in the most pompous manner imaginable, the males gobbling, while the females and the young run and leap about in the most extravagant manner, all of which looks like screwing up their courage to the proper pitch. The old and the strong get over very well, but the young often fall into the water ; they, however, strike out boldly till they come to land, when they seem to be quite bewildered, as if afraid of what they had done.

Several hens will lay their eggs in one nest, and they make up for the deficiency of paternal affection by being excellent mothers, feeding their young in wet weather with the buds of the spice-wood bush, as an antidote to damp, and vigorously defending them from all enemies. Three of these enemies beset the males also, and are very formidable—the snowy and Virginian owls, and the lynx. “When attacked by the two large species of owls above mentioned,” says Audubon, “they often effect their escape in a way which is somewhat remarkable. As turkeys usually roost in flocks on naked branches of trees, they are easily perceived by the owls, which, on silent wing, approach, and hover round them, for the purpose of reconnoitring. This, however, is rarely done without being discovered, and a single cluck from one of the turkeys announces to the whole party the approach of the murderer. They instantly start upon their legs, and watch the motions of the owl, which, selecting one as its victim, comes down upon it like an arrow, and would inevitably secure the turkey, did not the latter, at that moment, lower its head, stoop, and spread its tail in an inverted manner over its back, by which action the aggressor is met by a smooth, inclined plane, along which it glances without hurting the turkey; immediately after which the latter drops to the ground, and thus escapes, merely with the loss of a few feathers.”

The Mexican name for the turkey, “Huexolotl,” is one of those curious combinations of letters which we find only in that language. The Spaniards called it the peacock of New Spain; and it is supposed, by those who are learned in such matters, that it was brought to England in 1530. The assertion that if you take a

cock or hen, hold its head down, and draw a circle round it in chalk, it will not go beyond that circle, will equally apply to the turkey, and of course is equally unaccountable. Of its sagacity Mr. Audubon thus speaks: "While at Henderson, on the Ohio, I had a fine male turkey, which had been reared from its earliest youth under my care. It became so tame that it would follow any person who called it, and was the favourite of the little village. Yet it would never roost with the tame turkeys; but regularly betook itself at night to the roof of the house, where it remained till dawn. When two years old it began to fly to the woods, where it remained for a considerable part of the day, and returned to the enclosure as night approached. It continued this practice until the following spring, when I saw it several times fly from its roosting-place to the top of a high cotton tree on the bank of the Ohio, from which, after resting a little, it would sail to the opposite shore, the river being there nearly half a mile wide, and return towards night. One morning I saw it fly off, at a very early hour, to the woods in another direction, and took no particular notice of the circumstance. Several days elapsed, but the bird did not return. I was going towards some lakes near Green River, to shoot, when, having walked about five miles, I saw a fine large gobbler cross the path before me, moving leisurely along. Turkeys being then in prime condition for the table, I ordered my dog to chase it and put it up. The animal went off with great rapidity, and as it approached the turkey, I saw, with great surprise, that the latter paid little attention. Juno was on the point of seizing it, when she suddenly stopped, and turned her head towards me. I hastened to them; but

you may easily conceive my surprise when I saw my own favourite bird, and discovered that it had recognised the dog, and would not fly from it, although the sight of a strange dog would have caused it to run off at once. A friend of mine, being in search of a wounded deer, took the bird on his saddle before him, and carried it home for me. The following spring it was accidentally shot, having been taken for a wild bird, and brought to me, on being recognised by the red ribband which it had round its neck."

I copy a strange occurrence which took place in Manchester, from Captain Brown's work:—

"A jeweller of that town, being away from home for two days, left in his shop a domesticated turkey. This bird, one of the largest of its kind, urged by hunger, swallowed about five thousand pounds worth of cut diamonds, and flew through a window in search of more substantial nourishment. Being caught, killed, and cut up (drawn?) by a cook, he strangely puzzled his new possessor. The honest man, however, lodged the diamonds in the hands of his attorney, who restored them to the jeweller when the newspapers made known the loss he had sustained; and which was attributed to human thieves, as he never dreamt that the turkey had been the depredator."

An instance of the generous courage of the bird is also taken from this gentleman's pages:—

"A gentleman of New York received a turkey cock and hen, and a pair of bantams, which he put into his yard with other poultry. Some time after, a large hawk suddenly made a pitch at the bantam hen. She immediately gave the alarm, when the turkey cock, who was at the distance of about two yards, and no doubt

understood the imminent danger of his old acquaintance and companion, flew at the marauder with great violence, and gave him so severe a stroke with his spurs as to knock him to a considerable distance; and his timely aid completely saved the bantam from being devoured."

It appears, generally speaking, that the propensity of the male turkeys to destroy their young is overcome by education: for he not only defends the hen from all harm during the time of hatching, but assists in the process, and attends the young brood with great assiduity.

A strange story, however, is told by Dr. Stanley, who truly says, we have yet much to learn, if we would dive into the secrets of Creation:—

"A female turkey was shot just after her young had been hatched, and were not quite fledged. For a time the father of the brood hovered about the nest, uttering loud and menacing croakings whenever anybody approached. At length, however, he disappeared, and absented himself for two or three days; he then returned with another mate, when the poor, half-starved nestlings were attacked without mercy by the step-mother, who, after severely wounding, precipitated them from the nest. Two, however, were found at the foot of the tree with signs of life, and with great care and attention were reared at the rectory, about half a mile distant, and, after being slightly pinioned, were allowed their liberty; but they seldom quitted the lawn or offices, roosting on a tree in the shrubbery. Here, however, they were soon discovered by the unnatural pair, who, for a long time, used to come at early dawn, and pounce upon them with fierce cries.

GUINEA FOWLS (*Numida*).

THESE wild, pretty, speckled, grey and white birds, with their wearying cry of "Go back, go back," are so numerous in some parts of North-western Africa, that they used to get under my horse's feet as I rode through the grass, and so bewildered were they when I approached, that it was scarcely possible to avoid trampling upon them. It is this sort of alarm which has procured for them the reputation of being silly birds, which they by no means deserve.

Most persons know the wild flavour which their flesh retains even in captivity, and will not wonder at their having been held in such high estimation by those greatest of epicures, the imperial Romans. They have been introduced into Jamaica, where their purloining and devouring habits are very annoying to those who have gardens, or yam and cocoa plantations. They are cautious and suspicious in their new country, and run fast, which makes it very difficult to shoot them; but a dog is a great assistance, for if pursued by one they instantly become paralysed with fear, and they mount a tree to avoid it (almost the only occasion on which they use their wings), where they sit with outstretched necks, staring at their canine enemy. A curious method of catching them is spoken of by Mr. Gosse:—"A small quantity of corn is steeped for a night in proof rum, and is then placed in a shallow vessel, with a little fresh rum, and the water expressed from the grated, bitter cassava. This is deposited within an enclosed ground, to which the depredators resort. A

small quantity of the grated cassava is then strewn over it, and it is left. The fowls eat the medicated food eagerly, and are soon found reeling about intoxicated, unable to escape, and content with thrusting the head into a corner. Frequently a large part of the flock is found dead from this cause."

The following story is told by Mr. St. John:—"A Guinea fowl, whose mate had been condemned to death for killing young poultry, took compassion on some orphan ducklings (the mother had been killed by a hawk), and led them about, calling them, and tending them with as much, or more care than their deceased parent. It was a most singular sight to see the Guinea fowl quite changing her natural habits, and walking about, followed by a brood of young ducks. She never left them for a moment, excepting when she retired to her nest to lay; and even then, if the ducks uttered any cry of alarm, on the approach of dogs or children, their step-mother came flying over bushes and fences in a most furious hurry. Indeed she became quite the terror of the children, running after them and pecking their legs if they came too near to her adopted brood, although at other times she was rather a wild and shy bird. The ducks had a habit of hunting for worms in the dusk of the evening, and the poor Guinea hen, much against her inclination and natural propensities, thought it necessary always to accompany them. Frequently, tired out, she used to fly up to roost, but always kept her eye on the young ducks, and, on the least alarm, came bustling down to protect them at any hour of the night."



THE GUINEA HEN AND DUCKLING BROOD. Page 130.

to be the first to lay hold of the cock, break its thongs, and ride away with it. Of course those who first take hold of it are disappointed by the grease causing it to slip through their fingers; but once possessed of it, the winner rides off, and the others pursue him in order to snatch it away: the poor bird is thus torn to pieces, and the scraps are presented as trophies to the lady-loves of the parties.

It is amusing to watch the humours of the poultry-yard, and to see that the cock, who is often styled a jealous tyrant, is a judicious, spirited, and generous husband. He takes great care of his numerous wives, frequently stands aloof that they may have the full enjoyment of some choice food, which he has found for them; defends them and their broods from enemies; and if he should occasionally give an angry peck, it is for some misdemeanour on the part of the lady. On one occasion I saw a cock pursue a hen round the poultry-yard; and, as she had a worm in her bill, I at first thought he was so acting from a greedy desire to have the delicious morsel; but when he at last caught her, he gave her a knock on the head with his beak, and, taking up the worm which she had dropped, brought it to another hen, who stood witnessing the affray in mute expectation. A further knowledge of the habits of these birds has made me feel sure she had purloined the worm from the other, and the cock had restored it to its rightful owner.

Dr. Stanley tells us of a cock which became the terror of the poultry-yard in which he lived; and so pugnacious was he, that when his owner, a clergyman, who was in the habit of feeding him, passed him without the usual donation, he would fly at him, and was so fierce,

that although kicked to a distance of several yards, he returned to the combat. The same gentleman had a hen who, by way of taking a short cut, constantly swam across a pool which was between the poultry-yard and the church-yard, where she wished to feed. This hen also caught mice ; but it is not known whether she ate any of them ; that she did not devour all was proved by finding them dead where she had killed them.

Various animals will adopt other offsprings when robbed of their own ; but it seems to me that the hen's affections are more strangely bestowed than those of any others ; thus we find them rearing those which, if adults, would be her greatest foes. Strange inconsistencies occur, and completely baffle all our preconceived notions of fixed laws ; and the more we look into the lives of animals, the more are we puzzled by their affections and their actions, which are strongly allied to that reason of which we deny them the possession. Who, for instance, can account for a hen taking an extreme fancy to a large yard-dog, the terror of even men ; and at last making a nest of straw at the back of his kennel, laying and hatching her eggs there, and leading her young brood, as long as they were under her care, over his back, or between his legs, in their ingress and egress ; all of which occurred under the eye of one of my friends.

There is a story of that strange jealousy among birds which I have already remarked, told of a cock which, seeing (after a separation during the time of hatching) his favourite hen leading about a brood of young partridges, flew at her and killed her on the spot.

The hen is one of those birds which assumes the plumage of the male when advanced in years.

PHEASANTS (*Phasianus*).

HAVING been once seriously hurt by what was called a tame cock pheasant, reared in the poultry-yard of a friend of mine, and which used to steal through a hole in the hedge between that place and the park, to attack all who passed, I can bear witness to the pugnacious disposition of these birds, in which respect, as well as many others, they rival our barn-door fowls. A still more unprovoked attack, however, was made upon a young lady who was walking alone, a few miles from Stirling, when a beautiful cock pheasant flew down upon her, "and with spurs and beak began a furious assault. Seeing no escape from the enraged bird, she seized her adversary, and carried him home. He was, however, soon released, and when the door was opened, he went out without any sign of fear, and, with a deliberate step, paced backwards and forwards in front of the house, and manifested an inclination to join the fowls in the poultry-yard. The only way to account for this assault is, that the lady wore a scarlet mantle, to which the pheasant may have had such an antipathy as the turkey cock manifests to that colour; an antipathy evinced by many other birds, and various quadrupeds; and the cause of which is to us a mystery."

The common cock pheasants are magnificent birds; and, when we see them sitting in the sun, which lights up the beautiful lustre of their feathers, we are very sorry to hear the murderous sound which so often deprives them of life. I must own that our concern is much diminished when, divested of these splendid

feathers, they are offered to our eating, for they are excellent in flavour, especially when, in preserves, their feeding is carefully attended to, and many chesnuts enter into their bill of fare. All the species are beautiful; the golden, the silver, the horned pheasants (distinguished by two small, stiff, but soft appendages growing out of the head, and which are probably the rudiments of caruncles), etc., etc. In size and formation of feathers, the Argus pheasant surpasses all; but its colours are not so brilliant as those of others. The native places of all pheasants are India and Asia Minor; the first which were introduced coming from Phasis, in the latter country, which has given them their name.

They are very prolific, and sometimes lay one hundred and eighty-three eggs during the season; but hitherto they have been preserved with much care, and protected by the game laws, in the fear that free access to them should cause their extirpation. There is now much less apprehension of such a circumstance, because the method of rearing them by the common hen is better understood. They are not very intelligent birds, and will not bear close confinement; though, when domesticated with poultry, they will often eat out of the hand of those who feed them. They, as well as hens, when they cease to lay, take the plumage of the male birds.

PARTRIDGES (*Perdix*).

PARTRIDGES are brave little birds, full of tricks and wiles to decoy intruders from their nests, which are on the ground; such as pretending to be lame, that they may be run after in a contrary direction, and valiantly

giving battle when close approach endangers their young. "A person," says Captain Brown, "engaged in a field not far from my residence, had his attention arrested by two partridges, male and female, engaged in battle with a carrion crow; so absorbed were they in the contest, that they actually held the crow till it was seized and taken from them by the spectator of the scene. Upon search, the young birds (very lately hatched) were found among the grass, and probably the crow had attempted to carry off one of them, when he was attacked by the parents."

These birds are not domesticated without extreme difficulty, if ever; and yet they will place their nests in the immediate vicinity of man. A curious newspaper story, but well authenticated, shews that they derive a feeling of protection from human beings. A game-keeper heard an old partridge, as if in distress, in a field of oats, and judging that some enemy was among her young, he leaped over a hedge to examine into the matter; but not seeing anything, and the old bird continuing to run round him in distress, he made further search among the corn, and at last found a large snake in the midst of the infant brood. Willing to see if any mischief had been done, he immediately cut open the snake's belly, when two young partridges ran from their prison, and joined their distressed mother, but two others were found in the rapacious reptile's maw, which were quite dead."

Among the rare instances of partridges becoming tame, Dr. Stanley gives an account of one, which, being reared in a clergyman's family, attended the parlour at breakfast time, and used to stretch itself before the fire, as if to enjoy the warmth.

There are several species; and those of North-western Africa are brown, speckled with white, and most abundant. In northern regions they get under the snow, and the plumage of these shews the care which our Heavenly Father takes of all His creatures; for each feather is, as it were, doubled. If disturbed, they burrow under the snow for a considerable distance, but they are caught in numbers by traps.

At Mark's Hall, in Essex, a male and a female partridge, when their own nest was destroyed, took to a pheasant's nest, the hen belonging to which had been killed, and not only hatched, but brought up ten young pheasants. All dust themselves by rolling on the ground, in order to get rid of parasitical insects; they feed morning and evening; and when they have not a nest, a number sit together at night, their tails in the centre. The largest are found where there is an abundance of grain.

PIGEONS, DOVES, ETC. (*Columba*).

OF all birds, Pigeons are the most widely spread over the earth; the Frigid Zone being the only part which is destitute of their presence. In many places they are invested with a sacred character, the causes of which are evident. A dove was the messenger of Noah; doves were among the religious offerings of the Jews, and it was in the form of a dove that the Holy Spirit was seen to descend at the baptism of our blessed Saviour.

In every age pigeons have been domesticated; and in certain parts of the East, Persia for instance, habitations,

in the form of towers, are built for them on the outskirts of towns.

The Carrier Pigeon is the most rapid in its flight, which is estimated at about a mile in a minute, generally speaking; but there are many instances of much more rapid progress. It is recorded that a pair accomplished nearly 150 miles in an hour, when they returned to their home, guided by some instinctive power, of which we possess no knowledge.

The Ring-dove is the largest species of our British pigeons, with its sober, but delicately-coloured plumage, and the dark ring round its neck; and large migrations from the north often increase its abundance in this country. The Turtle-dove comes to us about the beginning of May, having passed the winter in Africa, and leaves us during the month of September.

The accounts of the numbers of Passenger Pigeons which assemble in immense flocks in North America, might be supposed exaggerations, if those to whom we owe the reports were not of unimpeached veracity; the name of Wilson alone stamps the statement with accuracy. He says they are attracted to certain spots for the sake of some favourite food; and Audubon declares, that "the air is so filled with them, as to cause darkness, and they continue to arrive for three days, spreading around them that peculiar odour which proceeds from them." I almost hesitate to write it; but, according to his calculations, one flock consisted of one hundred and fifteen millions, one hundred and thirty-six thousand, and it was three hours passing over a given spot. The noise of their coming was like that of a hard gale at sea. The boughs of the trees, in many instances would not bear their weight, and broke down. The noise and con-

fusion which they made when they alighted, was indescribable, and many of the wild animals there before them, sneaked from the spot, howling as they went; but eagles, vultures, and men crowded round them, the two former for immediate gratification, the latter to secure them for future occasions, by killing them and putting them in salt.

Pigeons are very numerous in Australia, and of great beauty; but the Crown Pigeon from New Guinea, Java, and the Malaccas, exceeds them all in beauty; the general plumage is a blue slate, and on the head is a tuft of finely and scantily bearded feathers of a very pale brown. In Equatorial Africa is a small species of light-green colour, with bright blue eyes.

The Ring-tail Pigeon of Jamacia suffers greatly from the attacks of mosquitoes; and it is clever enough to know that these insects cannot bear smoke; so when this rises from the woodman's fires, the bird flies into it to get rid of its tormentors. This is, however, very often fatal to its life, for the negroes light fires to attract it, and easily secure it when it comes. Its flesh is one of their great delicacies; the second being the fresh-water mullet, and the third, the black land-crab. The ring-tails are sometimes so fat, that they often burst when they fall to the ground, after being shot.

There is a very beautiful and gentle pigeon, in Jamacia, called the White-belly, which I notice on account of its peculiar cry, which is uttered all day, in bad or good weather, and which sounds like "Rain—come—wet—me—through," the last syllable drawn out as if the bird were in the last stage of suffering; whereas, says Mr. Gosse, "It is the cry of love and joy, poured out in the exuberance of love and happiness."

Captain Brown tells the following strange story of a pigeon which belonged to an inn-keeper at Cheltenham.

“He was twelve years old when his partner deserted him. He seemed deeply affected by her inconstancy, but made no new alliance. Two years he remained widowed and forsaken, when at last his faithless partner returned, and wished to share his domicile. She tried every scheme to gain admittance, and to restore affection in her mate, without effect, and when she became insufferably importunate, he pecked her severely, and drove her off; but in the course of the night she contrived to effect a lodgement. By dawn of day the male bird seemed to be so far reconciled as to allow her a share of his abode; but she died soon afterwards. He seemed sensible that, by her dissolution, he was placed more in a state of liberty than when she had voluntarily deserted him; he immediately took wing, and returned in a few hours after with a new partner.”

The same author states, that pigeons are fond of music, and as proof, quotes the well-known story told by Mrs. Piozzi, and adds, that a Mr. Leigh, of Cheshire, “whose daughter was a fine performer on the harpsichord, observed, that whenever she played one particular song, and only that one, a pigeon would descend from an adjacent dove-house, to the room-window where she sat, listened to her apparently with pleasure, and when she had finished, returned to the dove-house.”

One of those strange attachments which birds feel for other animals is related by Dr. Stanley:—“The pigeon had made her nest in a loft, much infested with rats, which had more than once destroyed her eggs, or devoured her young ones. Her repeated losses at length induced her to rebuild her nest in another part of the loft, where

a cat was rearing three kittens, with whom she contrived to form a strong friendship. They fed from the same dish, and when the cat went out into the field, the pigeon was often observed to be fluttering near her. The pigeon, aware of the advantage of her protection, had placed her nest closed to the straw-bed of the cat, and there in safety reared two broods of young ones; and in return for the protection she experienced from the cat, she became a defender of the young kittens, and would often attack, with beak and wings, any person approaching too near."

WADERS, SHORE-BIRDS (*Grallæ*).

By means of their long legs, destitute of feathers, the waders are able to enter shallow water, and there seek their food; their long neck keeping proportion with their legs. They do not, however, always live near water, for some inhabit the most wild and sandy plains; and there they pursue a vegetable diet. There is great variety in the formation of the beak, and the number of their toes.

OSTRICHES (*Struthio*).

THE largest birds now in existence are the Ostriches, which inhabit both the old and the new world. Their wings are so extremely short that they are only useful to their owners when running, at which time they spread

them open, and keep them constantly flapping. Their beaks are flattened, and are blunt at the end. The beautiful texture of their loose and flexible feathers is seen daily, for they are universally worn by ladies, when walking in the street, or frequenting the Royal Drawing-room. Their large eyes are fringed with eye-lashes, and their crop is enormous; their legs are of immense strength; they give the most formidable kicks when attacked, and are among the swiftest of animals. Ancient people used to call them Camel-birds, and their cleft (for they have only two toes) hoof-like feet, are padded underneath, similarly to those of camels. The callous pad of that animal's chest, on which it leans when reposing, is also analogous to a pad on the breast-bone of ostriches. They are generally fierce to strangers, and are dangerous enemies; but become tame and gentle towards those whom they know, when they are in captivity.

They are frequently ridden, and soon distance the fleetest horses. When hunted, horsemen form a circle round them, and so ride them down. Several hens are attached to one male, and they all lay their eggs in one nest, taking it in turns to hatch them by day, when they occasionally leave them to the heat of the sun alone. The male bird assumes the office at night, for he, being more powerful, is better able to cope with the predatory animals which seek the eggs; and jackals, tiger-cats, etc., are often found near the nest in the morning, quite dead, from the kicks and pecks of the ostrich. Supernumerary eggs are laid outside the nest, which are intended as nourishment for the young ones as soon as they leave the shell, and if the hens discover that the eggs in the nest have been touched during their absence,

they break them all, and abandon the spot. In consequence of this, when the natives of the neighbourhood wish to secure any, they draw them out with a long, hooked stick, and carefully efface the marks of their footsteps.

The brains of ostriches are reckoned very fine eating, and the flesh of the young birds is said to be delicious; their cry is a sort of chuckle and hissing by day, and by night a roaring not unlike that of the lion; they stand from eight to nine feet high, and no substance is too indigestible to be swallowed by them; even stones and pieces of metals being taken with impunity: large nails, and masses of brick, the size of a man's fist, have been found in their stomachs. Some of the natives of the interior of Southern Africa fasten the black body feathers of the ostrich on to poles, and with them divert the attention of a charging lion. The birds will weigh 300 lbs.; their thigh equals a large leg of mutton in size, and the clatter of their feet resembles the trotting of a horse. The Bushmen stalk them when disguised with one of their skins, imitate their gestures, and when they come near, shoot them with a poisoned arrow. In Eastern Africa, they themselves are trained to stalk wild animals, feed with the flocks of their masters, and are hobbled by night.

The ostriches of South America are smaller than those of the old world, and sometimes lay as many as 80 eggs in one nest. They are dangerous during the time of sitting on their eggs, and have been known to attack even men.

Two fine African ostriches were kept in the Rotunda of the Jardin des Plantes, in Paris, which were very tame, ate from the hands of visitors, and attached themselves to those who attended upon them. The female

met with a very painful death; for some glaziers, when mending the skylight at the top of their abode, dropped a triangular piece of glass into the compartment occupied by those birds; the hen swallowed it, and died in great agony two days after. She was dissected, and the cause was thus ascertained; her poor throat being lacerated from one end to the other. Her companion pined after her for a few weeks, and then died also.

Baron Denon used to speak of an alarm which he received when in Egypt, from these birds. He, attended by a party of soldiers, was making some drawings from the antiquities there, when, at a distance, some clouds of sand betokened the approach of living beings. They were fast approaching, when some one mounted on to a part of the ruin close by, saw their heads occasionally, and declared them to be a party of enemies, either English or Arab, and that they advanced so quickly, that there was no time to be lost: upon which the Baron was obliged to gather up his materials and take flight. Still the party approached, and the minds of the Frenchmen were made up to be captured, when a troop of ostriches rushed past them.

APTERYX.

A VERY singular bird has been recently brought to this country from New Zealand, whose habits are crepuscular, if not nocturnal; it feeds on worms, and that is all we know of its private history. It is a heavy, awkward bird, with mere vestiges of wings; they being even difficult to find under the feathers; each, however, is

terminated by a hooked claw. Their beak is very long, slender, and slightly arched, and the nostrils occupy a strange position, for they are placed at the tip; they have three toes before, and one behind; the former provided with strong claws for digging, the latter a mere spur, and used as a weapon; they have no tail, are shy and melancholy, run very fast, and defend themselves with great audacity. They are noticed here for their extreme singularity, their rarity, and for the probability that they will soon be extinct, like other birds of the same family, the Dodo and the Dinonis.

PLOVERS, LAPWINGS (*Charadrius*).

THOSE who have eaten Plover's eggs will probably not be sorry to hear something concerning these birds, whose nests are so often plundered to supply the tables of the luxurious. They frequent sandy shores, preferring the most unsheltered spots; they are also found on commons and moors, where they lay their eggs in some depression of the ground. They herd together in large flocks, and run very swiftly. The eggs which are so much prized, are chiefly those of the close relation of the plover, the Lapwing or Pee-wit, so called from its cry. In fact, there is little or no distinction between them. They are of all birds clever in decoying enemies from their nests, nevertheless, multitudes of eggs are yearly gathered in Norfolk, Lincolnshire, and Cambridgeshire. There are great numbers of them in the Orkney Islands, for they are not there molested. Their character for ingratitude is curiously recorded in an Act of Parliament made to

encourage their destruction, as they were "ungrateful, for that they came to Scotland to breed, and then returned to England with their young to feed the enemy."

"Two lapwings," says Captain Brown, "were given to a clergyman, who put them into his garden. One soon died, but the other continued to pick up such food as the place afforded, till the winter deprived it of its usual supply. Necessity soon compelled it to draw nearer to the house; and it gradually became familiarised to the interruptions from the family. At length, one of the servants, when she went into the back kitchen with a light, observed that the lapwing uttered his cry of pee-wit to obtain admittance. He soon grew more familiar; as the winter advanced he approached as far as the kitchen, but with much caution, as that part of the house was generally occupied by a dog and a cat; the lapwing, however, so entirely conciliated them, that it was his regular custom to resort to the fireside when it grew dark, and spend the evening and night with these two associates, sitting close by them. As soon as spring appeared, he discontinued his visits to the house, and kept to the garden; but when winter returned, he had recourse to his old shelter and friends, who received him very cordially. But what he at first obtained with caution, he afterwards took without reserve; he washed in the bowl which was set for the dog to drink out of, and, while thus employed, he shewed marks of the greatest indignation if either of his companions offered the least interruption. His death was occasioned by choking from some substance picked up upon the floor. According to Mr. St. John's observations, the pee-wits will fearlessly attack any birds of prey that venture near their breeding-grounds, and he has often detected the

locality of a stoat, or a weasel, by the swoops of these birds. Also, when they have laid their eggs, they fight most fiercely with any other bird of their own species, which happens to alight too near them. He saw a cock pee-wit one day attack a wounded male bird which came near his nest; the pugnacious little fellow ran up to the intruder, and, taking advantage of his weakness, jumped on him, trampling upon him, and pecking at his head, and then dragging him along the ground as fiercely as a game-cock."

Mr. Gosse put a Tell-Tale, or Kill-Deer Plover, into a packing-case with some doves. The front of the case had been removed, and a piece of gauze substituted. This he charged, dashing at it every instant, leaping and uttering his wild cry. The doves were at first stupified, and they gazed in astonishment, but presently, a young bald-pate, who occupied one of the front corners, a very cross and surly fellow, began to peck and beat the little plover, driving him about the cage without mercy. To escape the persecutions of this bald-pate, the plover suddenly squatted down in one of the back corners, being its natural resource for concealment. Here the pea-doves walked over him, trampling him under foot, and if he got up, bald-pate struck him with his wing, seized his beak, and pinched it. Mr. Gosse then took him out of the case, and suffered him to run about the room, which he did with surprising fleetness.

CRANES (*Grus*).

THE long, thick, and strong beak of this family of Waders, which is generally pointed, causes almost all of them to make singular noises ; and to see the Demoiselle dance, with its head on one side, its wings partially opened, while it apparently keeps time with the shutting of its large and pointed mandibles, is a most amusing spectacle. Cranes are, generally speaking, affectionate birds, with long, thin legs, bright eyes, and erect carriage ; which gives them a graceful appearance. The Royal, or Crown Crane, possesses beautiful plumage, and on its head has a tuft of straw-coloured, scantily bearded feathers. It is from Western Africa, and is easily tamed. " Two of them were kept in an aviary in England, and after some time, one of them died ; the other pined, and seemed to be dying, when a large looking-glass was put into his cage. He beheld himself, and fancied he saw his companion ; he walked backwards and forwards before it, making various gestures ; of course he thought these were returned, and he was so consoled, that he recovered his health, and lived for several years afterwards."

Bishop Heber speaks of the Hurgita, or Gigantic Crane of India, which is twice as tall as the tallest heron, which acts the part of a scavenger, lounges about with perfect fearlessness, and even jostles foot-passengers out of their paths. It has a large blue and red pouch, which is an air-vessel, employed as occasion requires ; either to sustain it in its lofty flights, or to counteract the weight of its enormous beak, when dipping it into the water, without which it would probably topple over ; and also to sustain it when swimming.

HERONS (*Ardea*).

HERONS, and many others of the same family of birds, have a strong propensity to attack the eyes of all against whom they have hostile feelings, and even when they have been supposed to be insensible, from wounds, to all around them, they have suddenly started up, and pecked an eye out of their adversary with unerring aim. In Captain Owen's Voyages on the Coasts of Africa, we meet with the following passage :—" I winged a beautiful Aigrette, that was passing over head, and brought it to the ground ; when, as I was in the act of picking it up, it struck at my eye with its beak ; and had it not been for my glasses, must inevitably have reduced it to perpetual darkness. I have since heard of a gentleman who, under similar circumstances, was not so fortunate : he still lives, and I shall feel pleasure if, by stating this incident, it should be the means of saving others from so distressing a circumstance."

The mournful-looking herons generally have a very slender neck, with a plume of fine, hanging feathers at the base, and another from the back of the head. I was strongly impressed with their beauty on seeing a white one in the garden of Dr. Neill, of Edinburgh, standing with one leg up, perfectly motionless, amid the exuberant growth of flowers and shrubs. As we came suddenly upon him, I was taken by surprise, and stopped. " Is not that bird well stuffed ?" asked the owner. " No stuffed bird ever looked like that," I replied ; for I had not then seen Mr. Waterton's performances ; and at that moment the heron's eye glistened as if to convince

me of his being alive. His real motive, however, was to seek the pellets of bread which Dr. Neill always carried in his pockets for his favourites; and the bird gravely stalked up to him to receive the usual donation. They are all great devourers of fish, and five eels were found in the stomach of one which was shot.

Mr. St. John gives a curious history of a superstition connected with one of these birds:—"An old woman lived in some woods, below a lake, who was supposed to be a witch, and to cause infinite mischief both to man and beast. The minister of the parish tried to annoy and resist her, and so often attacked her spiritually, that she suddenly disappeared, no one knew where; but that she was in the neighbourhood no one doubted, because of the unaccountable diseases among living creatures. A deer-poacher about the lake, however, saw her issue from a cairn of stones, and go across the country, through the air: after which, upon keeping watch, she was often seen to flit to and fro, on which occasions she was often shot at in vain. At last, a man who had been a soldier, when over his cups, resolved to free the country of the plague; and to make sure of success, he loaded his gun with a double quantity of gunpowder, a crooked sixpence, and some plated buttons. He lay down upon the hill, and watched the witch leave the cairn, then crawling to the spot, he there waited her return. All night did he remain, consoling himself, however, by frequent applications to the whisky bottle. At last, in the grey twilight of morning, he heard a queer noise, and saw the witch herself, in the shape of a large bird, coming directly towards him, and he wished himself at home, particularly as his fingers were so stiff with cold, that he could with difficulty pull the trigger. At last he managed to fire,

just as the witch was over his head, and going to alight upon the cairn. The next morning he was found, half asleep, half in a swoon; his gun burst, his collar bone nearly broken, and a fine large heron, shot through and through, lying by his side, and which all the country believed to be the sorceress."

Of the power of the heron's beak, Captain Brown gives an example:—"A gentleman, belonging to the parish of Bothwell, being on a shooting excursion, accompanied by a small spaniel, observed a heron wading a little above a waterfall. He fired, wounded it, and sent his dog into the stream to bring it to land. As soon as the dog had come within its reach, the heron drew back its head, and then, with all its force, struck him in the ribs with its bill. The gentleman again fired, and killed the heron; but it had well revenged itself; the dog and the bird floated dead together down the foaming waterfall."

The people of the Feroe islands believe that the foot of a heron worn in the fisherman's pocket, will give him success in his sport; and in many parts of England it has been, and may still be, believed that the heron possesses some oil which attracts fishes, particularly eels. It is said never to know when it has enough food; one was killed whose stomach contained thirty-nine trouts.

The Bittern, which is a variety of the heron, possesses a very extraordinary property, that of emitting a very bright light from its breast; and it is said, that all birds of the heron kind possess the same power. There is a considerable space bare of feathers, filled up with tufts of down, to which adheres a sort of clammy, oily substance, which is supposed by some to be a lure to fishes. "The heron's feathers are also found, occasionally loaded

with a blue powder, which may possibly serve its purpose in some way not hitherto discovered. They are birds of passage, but so punctual in their goings and comings, as to have been considered as gifted with reasoning powers."

STORKS (*Ciconia*).

STORKS inhabit Northern Europe only during the summer months, and the rest of their time is spent in Africa and in the East. They are birds of good augury, and in some countries, especially Germany, they are much encouraged and cherished. They return to the same nest every year; and if they ever desert it, some dire misfortune is anticipated. There is a curious belief in the above country, that they pay a sort of rent; the first year a quill feather (some say cut into a pen); the second, an egg; the third, a young stork. The fourth year they begin again with the feather, and go through the same routine as long as they stay, and they lay them on the dunghill before the barn-door, the barn and the house being under the same roof. They shake and beat their prey before swallowing it, and one species affords those light, elegant feathers called marabouts, which lie under their wings. The common name of this species is Adjutant, an appellation bestowed upon it by the Duchess of York, who declared they walked in the manner of these officers. There is a peculiar gravity of deportment about them which it is impossible to disturb; an effort which I have frequently made, for three of them used every evening to place themselves on a boat by the shores of the Gambia,

which lay keel upwards, and nothing provoked them to activity but a terrier dog; and then, after watching him with immoveable bodies, but moving eyes, they all three came down at the same time, hopped after him on their long legs, flapping their wings, but never catching him. They used to come into the garden of the Government House, stand with their great beaks thrust between the railings of the verandah of the house, and making a clapping noise with them, to induce us to feed them. One frequented the market-place at Sierra Leone, which was a licensed thief, his malpractices only exciting a laugh. They are extremely voracious, and prefer everything which can be found in a marsh. In the craw of one of them, Dr. Carpenter tells us, were found a land tortoise, ten inches long, and the entire body of a large black cat.

Many stories are told of the intelligence of storks; among others, Captain Brown relates the following :—
“ A tame stork had taken up his abode for some years in the College-yard at Zabingen. Upon a neighbouring house was a nest, in which the storks that annually resorted to the place used to hatch their eggs. One day in autumn, a young collegian fired a shot at this nest. Probably the stork that was sitting on the nest was wounded by the shot, for after that time he did not fly out of it for several weeks. However, at the usual time, he took his departure with the rest of the storks. In the ensuing spring a stork appeared on the roof of the college, who, by clapping his wings, seemed to invite the tame stork to come to him. The latter, however, could not accept the invitation, as his wings were clipped. After some days the wild stork came down into the yard, the tame one went to meet him,

clapping his wings, as if to bid him welcome, but was immediately attacked by the other with great fury. Some persons protected him, but the wild stork often repeated his attempts, and incommoded him throughout the whole summer. The next spring, instead of a single stork, four of them came at once into the yard, and attacked the tame one. As he was unable, of himself, to contend with such a number of adversaries, the cock, hens, geese, ducks, in short, all the poultry in the yard, came to his assistance, and rescued him from his enemies. The people of the house now paid greater attention than before to this stork, and prevented his being further molested during that year. But, in the beginning of the third spring, upwards of twenty storks rushed at once into the yard with the utmost fury, and killed the tame stork before either man or beast could afford him assistance."

In the ensuing story the tame stork had a temporary victory. "A farmer, near Hamburgh, having caught one, took it home to his yard, thinking it would be an excellent companion for a tame stork in his possession; but jealousy prevented this. The first inmate fell upon him, and beat him so severely that he left the premises. About four months afterwards, the defeated stork returned to the farm-yard, accompanied by three other storks, who made a furious assault upon the tame one, and killed him."

Further instances of jealousy towards female birds have occurred among storks, and from them I select the following:—

"A French surgeon at Smyrna, wishing to procure a stork, and finding great difficulty, on account of the extreme veneration in which they are held by the

Turks, stole all the eggs out of a nest, and replaced them with those of a hen. In process of time the young chickens came forth, much to the astonishment of Mr. and Mrs. Stork. In a short time Mr. Stork went off, and was not seen for two or three days, when he returned with an immense crowd of his companions, who all assembled in the place, and formed a circle, taking no notice of the numerous spectators which so unusual an occurrence had collected. Mrs. Stork was brought forward into the midst of the circle, and after some consultation, the whole flock fell upon her, and tore her to pieces; after which they immediately dispersed, and the nest was entirely abandoned."

A similar case occurred on the estate of a gentleman of landed property near Berlin, which I quote here in corroboration of those extraordinary occurrences, which shew so much reflection, so much feeling, and also the powers of communication which these birds possess. A pair of storks built a nest on one of the chimneys belonging to the above gentleman, and he climbed up to it, and found an egg, which he took away, and replaced with a goose's egg. The stork did not appear conscious of this, and the egg was hatched; when the male bird, perceiving the difference, flew round the nest several times with loud screams, and disappeared for three days, during which time the female took care of the strange offspring. Early on the fourth morning, the inmates were disturbed by loud and discordant cries, in a field fronting the house, where they saw five hundred storks assembled; one, standing about twenty yards before the rest, apparently haranguing his companions, who stood listening with evident emotion. When this bird had finished his discourse he retired; another rose,

and seemed to address the assembly ; he was followed by several others, till about eleven o'clock, when they all rose at one time, uttering dismal cries. The female remained on her nest, watching their motions with apparent trepidation. In a short time the body of storks made towards her, headed by one bird, supposed to be the mate, who struck her vehemently three or four times, and knocked her out of the nest, the whole mass then followed up the attack, until they had not only destroyed the female stork (who made no attempt either to escape or defend herself), but the young gosling, and utterly removed every vestige of the nest itself. Since that time no stork has been seen in that neighbourhood. It is supposed in Germany that a stork never builds on a bad man's house, and if a person be suspected, even of murder, the people will scarcely suffer him to be brought before a magistrate if a stork have built upon his house.

A large hospital has been built at Fez for nursing sick cranes and storks, and burying them when they are dead. This arises from the belief that they are human beings from some distant island, who assume that shape in order to visit Barbary, and who return to their own country, and resume the human form. They are among the sacred birds of the Egyptians.

WOODCOCKS (*Scolopax Rusticula*).

THE long beaks of Woodcocks are soft and sensitive at the tip ; and the shrinking of this part after death has given rise to the supposition that they are pointed.

They have large eyes, placed very far back in their head, which gives them a very stupid appearance. They are more abundant in Ireland than in Great Britain, and they feed at night, chiefly upon earth-worms, which they draw out of the moist ground with their long beaks, and, raising them in the air, let them slip down their throats. They always lay four eggs, which lie in the nest with the small ends meeting in the centre: the old birds carry their young ones to the places where they can best find food, taking them one by one with their feet, and carry them back to the nest in the same careful manner. Their numbers have much diminished in this country, owing, it is supposed, to the decrease of our woods.

RAILS (*Rallus*).

PASSING over a number of birds which are interesting to the sportsman and the naturalist, but of which I find no records of particular intelligence, I come to the Rail, or Corn Crake; which utters a harsh and feeble cry, and lies concealed in the long grass of meadows, or in fields of green corn. They, in common with many other animals, practise the stratagem of feigning death when they are taken; so as to induce the captor to be careless, and enable them to escape. Mr. Jesse relates, "that one was brought to a gentleman by his dog, to all appearance quite dead. He turned it over with his foot, as it lay upon the ground, and was convinced that life had departed. As he stood by in silence, he saw it open one eye. He then took it up, its head fell, its legs hung

loose, and it again appeared to be quite dead. He put it into his pocket, and before long, felt it struggling to escape. He took it out; then it was apparently as lifeless as before. He retired to some distance from where it lay upon the ground; and, in about five minutes, the bird warily raised its head, looked round, and decamped at full speed."

It is difficult to account for the harsh, grating cry of the corn crake, which sounds as if it proceeded from some metallic substance; to use Mr. St. John's expression, "like a piece of iron drawn along the teeth of a rusty saw." It is said, that a correct imitation of it will bring the bird to your feet.

COOTS, MOOR-HENS (*Fulica*).

AN interesting anecdote, related by Mr. Selby, has induced me to notice this family of birds:—

"During the early part of the summer of 1835, a pair of Water-Hens built their nest by the margin of an ornamental pond; which was a piece of water of considerable extent, and ordinarily fed by a spring from the height above, but into which the contents of another large pond could occasionally be admitted. This once took place while the female Coot was sitting; and as the nest had been built when the water was at a low level, the sudden influx of water caused a rise of several inches, so as to threaten the speedy immersion, and consequent destruction of the eggs. The birds seem to have been aware of this, and immediately took precautions to avoid the danger; for when the gardener saw the sudden rise

of the water, and went to look after the nest, both birds were busily engaged about the brink where the nest was placed, and he clearly saw them, with all possible despatch, adding fresh materials to raise the fabric beyond the level of the pond. The eggs had been removed from the nest by the birds, and deposited on the grass, about a foot or more from the margin of the pond. When the nest had been made sufficiently high, the eggs were replaced, and in less than half an hour, the hen was quietly sitting upon them."

A further proof of the sagacity of these birds is given by Dr. Stanley:—

"A water hen, observing a pheasant feed out of one of those boxes which open when the bird stands on the rail in front of the box, went and stood in the same place as soon as the pheasant quitted it. Finding that its weight was not sufficient to raise the lid of the box, it kept jumping upon the rail, to give additional impetus. This only succeeded partially; so the clever bird went away, and returned with another bird of its own species. The weight of the two had the desired effect; and they both enjoyed the reward of their sagacity."

WEB-FOOTED BIRDS (*Palmipedes*).

THE manner in which this aquatic order of birds is adapted to the element which it inhabits, is another instance of the fitness of all God's creatures for their habits and purposes. Their feet have four toes, three of which are placed in front, and the fourth, which is very short, is turned behind. A membrane extends between the

three front toes, so as to unite them into a sort of paddle. The legs are short, and placed far back upon the body ; the close, shining plumage has a thick down between the stems of the feathers, which is imbued with an oily juice, so as to form a thick and compact covering. They have long necks, which enable them to dip their beaks deep into the water for food ; and the breast bone is longer than that of other birds, and comes further under the body, so as to protect their digestive organs from the water. Several of the families require notice from my pen.

GREBES, DIVERS (*Colymbus*).

THE Divers of Jamaica are small birds, and the quickness of their eye is such, that it is most difficult to get near enough to shoot them. They rapidly dive when alarmed, and at other times "call and answer each other," says Mr. Gosse, "with a loud clang, like the sound of a trumpet."

The lesser Grebe, or Dab-chick, which built a nest close to a pond in Inverness-shire, in a tuft of rushes, in shallow water, a few yards from the bank, was observed by Mr. St. John : and he says, "both the male and female shewed the greatest activity, collecting a considerable quantity of dead rushes, with which they made a good foundation ; they then dived for the weeds which grow at the bottom of the water, bringing up small bunches at a time, and clambering up the sides of their nest, the lower part of which lay in the water. In the layers of this they made a hollow in the middle

for the eggs; they only worked in the morning and very late in the evening. Six eggs were laid, and the mother-bird covered them carefully each time that she left them, with the green weed from the bottom of the pond, so that in a few days they became green and dirty-looking, and the edges of the layer became higher and higher. She was off her nest for hours, playing in the water with her mate; but in a fortnight, six little dab-chicks, scarcely bigger than large beetles, followed her into the water, where they were as much at home as their parents."

Grebes are very wary birds, unsocial, and never off their guard. "As I was out shooting," says an eye witness, "I saw one of these birds swimming towards a point of land where I concealed myself. He came onwards with a wild, anxious gait, constantly turning his head from side to side, as if to be upon his guard against an enemy. Now and then, as he came on, he stretched out his long neck for several seconds, under the water, looking for small fish; and when he had nothing better to do, he turned his head round, in order to rub his tail with his bill. Watching the moment when he was so engaged, I fired, at the distance of thirty yards. My gun went as quick as lightning, but the grebe went quicker; and scrambling over, out of sight, came up again in a few seconds, perfectly unhurt."

GUILLEMOTS (*Uria*).

GUILLEMOTS have short wings, and the feathers of the head come as far as the nostril. They are northern birds, are said to be extremely stupid, and bear various

local names. They frequent steep rocks in thousands, never make any nest, but lay their eggs on bare ledges, and when the young ones are old enough to go to sea, the parents carry them there on their backs; and, after sporting about in the water, convey them back again in the same manner. Mr. Waterton's description of taking their eggs, which he himself practised, is so graphic, that I copy his words, with a little abridgement. "The usual process is carried on by three men, though two will suffice, in case of necessity. Having provided themselves with two ropes of sufficient length and strength, they drive an iron bar into the ground, about six inches deep, in the table land at the top of the precipice. The thickest of the ropes is fastened to this bar, and then thrown down the rocks. He who is to descend now puts his legs through a pair of hempen braces, which meet round his middle, and there form a waistband. At each end of this waistband is a loop-hole, through which they reeve the smaller rope; for which loops, hooks and eyes are sometimes substituted. A man holds the rope firmly in his hand, and gradually lowers his comrade down the precipice. While he is descending he has hold of the other rope which was fastened to the iron bar, and, with this assistance, he passes from ledge to ledge, and from rock to rock, picking up the eggs of the guillemot, and putting them into bags, which are slung across his shoulder. When these are filled, he jerks the rope, which motion informs his friend that it is time to draw him up. When he has gained the top, the eggs are put into a large basket, previous to being packed in hampers, and carried in a cart to the wholesale dealers, who purchase them at sixpence the score."

As Mr. Waterton was lowered down, he says "that the grandeur and sublimity of the scene beggared all description, and amply repaid any little unpleasant sensations which arose on the score of danger. The sea was roaring at the base of this stupendous wall of rocks; thousands and tens of thousands of wild fowl were in an instant on the wing. . . By no glutinous matter, nor any foreign body whatever, were the eggs of the guillemots affixed to the rock; bare they lay, and unattached, as on the palm of your outstretched hand. You might see nine, ten, or sometimes twelve old guillemots in a line, so near to each other that their wings seemed to touch those of their neighbours; and when they flew off at your approach, you might see as many eggs as birds."

PENGUINS, ALEA, PATAGONIAN PENGUINS, APTERODYTES.

THESE birds live upon the sea, and have extremely short wings; those of the Patagonian Penguins are covered with feathers which look like scales. Their legs are placed further back upon the body than those of any other birds; and the penguins can scarcely be said to stand, for they rest upon their legs as they lie upon the ground, and drag themselves upon their bellies to their nests. Their flesh is black, but good to eat, and they are courageous in disposition. Mr. Darwin placed himself between one of the Patagonian penguins and the water, at the Falkland Islands, and till it reached the sea, it regularly fought and drove him backwards. Nothing less than heavy blows would have

stopped him ; every inch gained was firmly kept, and he stood close before his adversary, erect and determined, except now and then, when he rolled his head from side to side in a very odd manner, as if the power of vision only lay in the anterior and basal part of each eye. He was the Jackass Penguin, so called from the habit, when ashore, of throwing the head backwards, and making a loud, strange noise, very like the braying of that animal ; but while at sea, and undisturbed, his note is very deep, and sounds very solemn at night. When diving, his little plumeless wings serve as fins, and when crawling, they answer the purpose of fore-legs. When they come to the surface they rise with a spring, and dive again like a fish. They feed on crustaceæ ; and, to facilitate the digestion of the hard coverings of these animals, they swallow substances which will crush them. Sir James Ross, in his voyage in the Antarctic Regions, mentions having found in the stomachs of Great Penguins, from two to ten pounds' weight of pebbles, consisting of granite, quartz, and trappean rocks.

PETRELS (*Procellaria*).

THE noble song of " The Stormy Petrel " has made the name and habits of these birds familiar to landsmen, while those who have been to sea hail them as old friends. They are said, when they assemble in numbers round a vessel, to portend a storm ; but every living thing which salutes the eyes, when surrounded by the ocean, creates interest, and the recollections

belonging to these active little birds become dear to us long after we have been quietly settled in a more permanent dwelling.

The beaks of the petrels look as if a piece were joined on to the tip, and they have only a claw in place of a great toe. They move on the water as if they were walking on the tips of their wings, and always have a provision of oil in their stomachs, which they eject over their enemies. Dr. Scoresby says, that the Fulmar Petrels are so bold, from greediness, that they will advance within a few yards of the men who are cutting up the whales, and it is curious to see the voracity with which they seize the enormous quantity of fat which they devour. The Stormy Petrels are the Mother Carey's Chickens, and are said to have been named after some fancied witch. They contain so much oil, that the people of the Hebrides are said to form them into candles, by passing a rush through the body, and out at the beak, and it burns as well as any other rushlight.

Although wild and solitary by nature, they become extremely tame in confinement. The largest species, called Nelly, and Quebranta-puesos, or Break-bones, by the Spaniards, flies like the albatross, and makes war upon gulls. Many have been found far inland, when driven there by stress of weather, even flying up and down the streets of towns.

PUFFINS (*Puffinus*).

ANOTHER name for these birds is Sea-Parrots, owing to the form of their beak. There is an island near Beaumaris, which is called Puffin's Island, from the numbers which frequent it; but they are still more numerous further north. Dr. Henderson says, that in Iceland they are caught by means of a hook fastened to a stick; and what is singular, when one is dragged out, his companions take hold of him, and endeavour to retain him, by which means they are often secured to the amount of three or four at a time. They sit together in great numbers, in the holes and clefts of rocks; and in Norway a dog is trained to perform the office of the stick; he draws one out, this lays hold of the next bird, to prevent being dragged away, and that one does the same; so that a great number fall into the hands of the fowler.

ALBATROSSES (*Diomedea*).

THE enormous Albatross, the heaviest of all aquatic birds, is chiefly a frequenter of the southern hemisphere; but it has been asserted that they have been also seen in the north, in a similar latitude. They have large, strong beaks, and utter loud cries; they sometimes measure sixteen feet from the tip of one wing to that of the other; and they sail majestically in large circles, being almost always in the air, with

scarcely a perceptible motion of their wings, or lowering themselves almost to the surface of the water, and rising again without apparent exertion, with or against the wind, in calm or in storm. One was known to follow a ship, which made two hundred miles a day, for forty-eight hours; and besides these miles, from its irregular flight, it must have passed over three or four times that distance. They dart with unerring aim and great force on their prey, as it swims on the top of the waves; and a man who fell overboard near the island of St. Paul's was killed by them; for, although the boat was lowered immediately, nothing was found of him except his hat, pierced through and through by the beaks of three albatrosses, who had marked him, pecked him on the head, and caused him to sink.

The courtship of the albatrosses is said to be a regular pantomime, for they approach each other with much appearance of ceremony; frequently touch each other's beak, swing their heads, and stand looking at each other with earnest attention. They usually lay but one egg; and it is a year before the young albatross can fly. They disgorge their food when they nourish their offspring, eat an enormous quantity of flying fishes, and when full, are easily caught with a hook and line. There is a degree of romance attached to them, owing to the celebrated poem of "The Ancient Mariner," by Coleridge; their power and size; their silent and immense range of flight. This, however, is destroyed by their cowardice, and the offensive nature of the oil which they secrete.

GULLS (*Larus*).

THESE denizens of the sea-shore and the ocean are seen at immense distances from land, and are spread all over the globe. I once caught an Ivory Gull when in the middle of the Atlantic, which had probably been hurt; for it rested on the ship in which I was, and suffered me to take it with my hand. It was very gentle, though not tame, and I made every effort to preserve it. It would not, however, eat any thing which I could offer; it lived three weeks, its eyes continuing bright to the last, and died without a struggle.

Of a gull which was partly domesticated at Dr. Neill's (of Edinburgh), I speak with full authority, as he was kind enough himself to write me the history. It was picked up at sea in the Frith of Forth, and brought to Dr. Neill by a Newhaven fisher-boy; it was uninjured, but not fully fledged, and willingly fed with some ducks on potatoes and kitchen refuse. It became familiar, would peep in at the kitchen windows for a piece of fat meat, and would follow a female servant, calling loudly for food. It remained till 1822, when it was ascertained that it had taken flight towards the north. In the October of that year, the servant saluted Dr. Neill, on his return home one day, with, "Sir! big gull is come back;" and, in fact, he had returned to his old haunts, and recognised a tame heron, with whom he had formerly been very intimate; but at that time he went in the morning and returned in the evening, and the servant, wishing to secure him, put him in confinement. This was evidently so irksome to him, that he was released;

but it made him more shy and cautious than he had been. He, however, daily visited the garden, and took the food laid there for him. In March, 1823, he disappeared, but returned in the autumn, and continued this practice for years. He became again shy when the above-mentioned servant died; but in 1829, which was the eighth winter, he returned, and brought another gull with him, supposed to be one of his offspring, but which was soon shot by some chance sportsman. He continued his visits and farewells, excepting in 1833, but he returned in the following January, when he recognised Dr. Neill's voice, and hovered round his head. For two years longer his visits were regular, and he arrived as usual in November, 1832, and continued to go and return till towards the end of January, 1839. In stormy weather he was sometimes absent for eight or ten days, so that it was near the end of February before his early departure attracted particular notice, or excited fear for his safety. He never again made his appearance. Speaking of a Skua Gull in his possession, Dr. Neill said, "Skua is still alive, and has now entered his twenty-fourth year; has become grey, or at least pale-headed; but is as lively, pugnacious, and fond of cheese and mutton as ever."

Mr. Drosier, of Norfolk, gives the following description of a struggle between some gulls and an eagle:—"As I was intently observing the majestic flight of the eagle, on a sudden he altered his direction, and descended hurriedly, as if in the act of pouncing; in a moment, five or six of the Skuas passed over my head with an astonishing rapidity; their wings partly closed, and perfectly steady, without the slightest waver or irregularity. They soon came up with the eagle, and a desperate engagement ensued. The short bark of the eagle

was clearly to be heard above the cry of the Skua, who never ventured to attack his enemy in front; but taking a short circle around him, until his head and tail were in a direct line, the gull made a desperate sweep or stoop, and striking the eagle on his back, he darted up again almost perpendicularly; when, falling into the rear, he resumed his cowardly attack. Three or four of these birds, thus passing in quick succession, harassed the eagle most unmercifully. If, however, he turned his head, the gull quickly ascended without touching him. This engagement continued for some time, the eagle turning and wheeling as quickly as his ponderous wings would allow, and when he approached some rocks, the gulls made off."

A story, resembling one already told of a raven, may perhaps be forgiven for its drollery. A certain Major B., of North Berwick, put a bottle of champagne into a pond, in order to keep it cool for dinner. About half an hour after, hearing a great flutter and cackle going on in the garden, he went to see what was the matter, and found that two gulls were uproariously enjoying themselves over his champagne. They had contrived to break the bottle about its shoulder, by letting it fall hard on the pebbles, and no sooner was a breach effected, than they proceeded to regale themselves with the liquor. They were thoroughly tipsy, yet not so far gone as to be unconscious of the immorality of their proceedings, for immediately on catching a glimpse of the Major, they hopped off with a great cry of alarm, and were no more seen that afternoon.

Boatswain Gulls get their living by robbing other gulls; their hawk-like swoops and courage making them always successful. Those most exposed to their attacks are

the Herring Gulls and Kittiwakes, which chiefly feed on herrings ; and when the shoals of these fishes appear, the birds express their joy by loud and discordant screams.

PELICANS (*Pelicanus*).

As one of the boats belonging to the good ship Lord Mulgrave shot out of the creek of the river Gaboon, which led to the town of Naängo, and passed the tall mangroves, which rose from the water, with their glistening leaves, and long, scarlet berries, a row of white animals appeared at a distance, lining the shore, and to our eyes seemed motionless. As we neared them we found they were birds, all standing in the same attitude ; their heads drooping, their eyes intently fixed upon the water ; and, as we approached still nearer, we saw these heads rapidly descend, one after the other, though not in regular succession. We passed them, and perceived they were Pelicans ; some of a delicate rose colour, others white, and the bag under their throats becoming distended. As each had taken enough, it slowly flew away to its nest among the lofty, dark trees of the virgin forest, which was close behind them, and the whole scene was so solemn, so quiet, and so novel, that we could not speak till we were at a distance from them.

The bag, or pouch to which I have alluded, bears an enormous proportion to the size of the bird, and frequently holds seventeen pints of water ; it is supported by two long processes, which come from the beak, which is also very large ; and it is from disgorging the contents of this bag to feed the young, that arises the fable

of the pelican taking sustenance from her own breast for the support of her offspring. "It is a pleasant sight," says Mr. Gosse, "to see a flock of pelicans fishing (at sea). A dozen or more are flying on heavy, flapping wing, the long neck doubled on the back, so that the beak seems to protrude from the breast. Suddenly a little ruffling of the water arrests their attention; and, with wings half closed, down each plunges with a resounding plash, and in an instant emerges to the surface with a fish. The beak is held aloft, a snap or two is made, the huge pouch is seen for a moment distended, then collapses as before; and heavily the bird rises to wing, and again beats over the surface with its fellows. It is worthy of observation, that the pelican invariably performs a somerset under the surface; for descending, as he always does, diagonally, not perpendicularly, the head emerges, looking in the opposite direction to that in which it was looking before. When the morning appetite is sated, they sit calmly on the heaving surface, looking much like a miniature fleet."

The ensuing account of a domesticated pelican is from the pen of Mr. Hill, of St. Domingo:—"The facility with which the pelican resigns itself to fasting or feasting, was very interestingly exhibited to me in a bird I saw the other day at Passage Fort. It was a pelican of mature age; it flew backwards and forwards, visiting the wild flocks, and feeding with them in the harbour during the day, and withdrew from them to roost in its master's yard during the night. In that period of restraint, when it was necessary to observe the caution of drawing its quill feathers, to keep it within very diminished capabilities of flight, until it became familiar and domesticated, it was wholly dependent on the fish

provided for it by the fishermen of the beach. Sunday was no fishing day with these men; and this was, therefore, a day in which there were no supplies for the pelican. It became, in time, so conscious of the recurrence of this fast-day, that although, at all other times, it went daily down to the sea-side to wait the coming in of the canoes, on the seventh day it never stirred from the incumbent trunk of a tree, on which it roosted, within the yard. It had been found necessary to pluck its wings within the last two or three months, to restrain it within bounds, in consequence of its absence latterly with the wild birds, for several days in succession, and in this state it was reduced, as formerly, to depend on the fishermen for food. The old habit of abstinence and drowsy repose on the Sundays again recurred, and when I saw it, it was once more a tranquil observer of the rest, and with it the fast, of the Sabbath-day."

CORMORANTS (*Phalacrocorax*).

LIKE pelicans, Cormorants have very small tongues; the middle toe is indented like a saw; their young are born blind, and do not fly till they are three weeks or a month old. Milton compares Satan to a cormorant; and Dr. Stanley thinks the fallen angel could not meet with a fitter representative, as he sits on a rock, gorged with food, with an unearthly appearance; his slouching form, his wet and vapid wings, dangling from his sides to catch the breeze; while his weird, haggard, widely-staring, emerald-green eyes, scowl about in all directions. They devour an astonishing quantity of food, and if, in

those localities where the sea is liable to much movement, a storm lasts for some days, they are to be found huddled together in their caves, perishing with hunger.

The appearance of cormorants, their wild and desolate habitations, their habits and voracity, would seem to distance them from man, yet there are many instances of their docility and affection. They even become troublesomely tame; and when pressed by hunger, lose all their gentleness. One day a gentleman's servant went to look at a pair, which had appeared to be perfectly domesticated during two years. Unfortunately, part of the man's livery was of red plush, which, it is supposed, attracted the attention of the birds, from its resemblance to the raw liver and lights with which they were usually fed. Consequently, they made such a furious assault, that their owner was obliged to drive them off with a stick. They fight with bills, wings, and claws, at the same time, and scream frightfully. They kill poultry, and even dogs, when unprotected. The fable perpetuated by Mr. Waterton merits a place here. "The cormorant was once a wool merchant; he entered into partnership with the bramble and the bat, and they freighted a vessel with wool. She struck on some rocks and went to the bottom. This loss caused the firm to become bankrupt. Since that disaster the bat skulks in his hiding-hole until twilight, in order that he may avoid his creditors; the bramble seizes hold of every passing sheep, to make up his loss by retaining part of its wool; while the cormorant is for ever diving into the waters of the deep, in hopes of discovering where his foundered vessel lies."

I believe that it is Mr. Fortune who thus describes the manner in which the Chinese use these birds for

fishing. "Ten or twelve cormorants are put into a boat with one man, they at first standing perched on the sides; they are then ordered out of the boat by their master, and they scatter themselves over the water to look for fish. Their quick eye soon tells them where to dive, and the fish once caught in their sharply notched bills, never escapes. They rise to the surface, swim to their master, and are pulled into the boat, where they deposit their prey, and then return to their labour. If one gets hold of a fish too large for him to take to the boat, his companions come to his assistance. If one gets lazy or playful, his master strikes the water near him with a long bamboo, and speaks angrily, when the bird returns to his duty. A small string is tied round the throat of each, to prevent it from swallowing the fish which it takes. They will not fish in the summer months, but begin about October, and end in May."

FRIGATE BIRDS, OR MAN-OF-WAR BIRDS (*Tachypetes*).

THE enormous length of wing, in proportion to the bodies of the Frigate Birds, enables them to fly immense distances from land. They frequently measure twelve feet from tip to tip, and principally inhabit tropical regions, where they devour flying fishes, and impudently knock the boobies over to seize upon their acquired prey. Their plumage is beautiful; they close and open their tail very often while they are in the air, and frequent the same spot for many years, even a hundred. They watch the fishermen in their vocations; and

directly the gulls, etc., have secured a part of the prey, they pounce upon them with such lightning rapidity and force, that they yield up their booty without a struggle.

Frigate birds are never known to repose; they cannot take flight except from some projecting pinnacle or branch; and they are not adapted for a life on land. Their feet are only partially webbed; their feathers are not of the same texture as those of aquatic birds, and they seem formed for eternal flight. Besides these arrangements, they have a large pouch under the throat, which communicates with the lungs and light bones of their skeleton. This, when filled, affords them a greater degree of buoyancy, and they float at will in the higher regions of the atmosphere, rising above the storms; and when hunger obliges them to descend, they empty their pouch, and come down to the waves for food.

GANNETS, SOLAN GEESE, BOOBIES

(*Sula*).

A VERY inquisitive-looking Boobie used to put his head in at the stern-window of the cabin in which I lived, during my first journey to Africa; his head first on one side, and then on the other, as if listening to the conversation within. He accompanied us for several days, and when he had fed plentifully, he perched upon the yards, and was repeatedly caught by the sailors. They float upon the most tempestuous waves like a cork; and to enable them to do so, have great power of puffing

themselves out with air. They can even force air between their skin and their body, so that they are like a bladder. As with this buoyancy they cannot dive, they dart upon their prey with such force and rapidity, that any other bird would be stunned by the collision, or suffocated by the water going up its nostrils. The Gannet, however, has a sort of horny mask on the front of its head, and no nostrils.

SWANS (*Cygnus*).

THE whole family of ducks, of which Swans are a portion, are distinguished by a large wide beak, furnished with a row of thin projecting and transversal plates. Few are ignorant of the majestic appearance of swans in water, and their awkward gait out of it; for they become extremely familiar, and live in frequented rivers, and ponds situated in cities. When once settled in a piece of water, they seem to appropriate a portion to themselves, and never suffer any other swans to come near. They are now reserved for ornamental purposes, except occasionally a cygnet may be killed for a feast; but in former times they were eaten on grand occasions, civic fêtes, and royal entertainments. Hence there are many quaint receipts for preparing them, in which wine and strong herbs make a considerable figure.

Laws were formerly established, which were stringent upon those who invaded the spot appropriated to swans, or who did them any injury; and licences were taken out for the appointment of swan-herds.

They are very fierce birds when provoked, and fight with great courage, their strong wings making them formidable enemies, as they can at any time break a man's leg with these weapons. The black swan of Australia is smaller than our white swans, but is beautiful in shape, and has a bright red bill.

The tame swans which we have in this country are descended from the wild ones of Europe and the Black Sea, where a large trade is carried on for their quills. They always fly in long lines, often at the rate of 100 miles in the hour, and feed in shallow water. On the latter occasions, one is always kept on the watch for danger, he being relieved by another when he is obliged to feed; and if any danger approach, the sentinel gives notice by a cry, sounding like a bugle.

Mr. St. John says "that the wild swans are not as graceful as those which have been domesticated, but run faster when on land."

Captain Brown thus describes a scene which took place in the Regent's Park. "A gentleman who was walking there, was one afternoon attracted by an unusual noise in the water, which he ascertained to arise from a furious attack made by two white swans on the solitary black one. The allied couple pursued the bird with the greatest ferocity; and one of them got his neck between his bill, and shook it violently. The poor black swan with difficulty extricated himself from the murderous grasp, hurried on shore, tottered a few paces from the water's edge, and fell. His death appeared to be attended with great agony. He stretched his neck into the air, and attempted to rise from the ground, and the struggle lasted five minutes. His foes never left the water in pursuit, but continued sailing up

and down to the spot whereon their victim fell, with every feather on end, and apparently proud of their conquest."

The same author tells us of a female swan who, while sitting, observed a fox swimming towards her from the opposite shore. She instantly darted into the water, and having kept him at bay for a considerable time with her wings, at last succeeded in drowning him; after which she returned to her nest in triumph.

Mr. Broderip relates that "twenty-nine swans alighted on an extensive reservoir, belonging to Messrs. Burton and Sons, calico printers. They were shot at, and one so wounded in the wing that it was disabled. All the herd abandoned it with the exception of one, which for hours flew about the spot, after the others had departed, incessantly uttering its mournful cry. This was on the 10th of December. The efforts made by Mr. Burton's men to secure the wounded bird drove away her mate, and he was not seen again till the 23rd of March, when he flew round the reservoir in lofty circles, and descending to the female, took his station by her side. He soon became familiar with those around them, even more so than the other. The pair seemed to be strongly attached to each other, and so completely reconciled to their situation, that it was hoped a brood of their young might be reared; but some strange dogs came to the reservoir and frightened them; the male then took flight, and did not return, and in September the female, who was quite restored, quitted the spot, and was not seen again."

Lord Braybrooke supplied the following anecdote to Mr. Yarrell, the scene of which was at Bishop's Stortford. "A female swan had seen some eighteen summers,

had reared many broods, and was become familiar to the neighbours, who valued her highly. Once, while she was sitting on four or five eggs, she was seen to be very busy, collecting weeds, grasses, and other materials, to raise her nest. A farming man was ordered to take down half a load of haulm, with which she most industriously elevated her nest and eggs two feet and a half. That very night there came down a tremendous fall of rain, which flooded all the malt-kilns, and did great damage. *Man* made no preparation, the *bird* did. Her eggs were above, and only just above, the water."

GEESE (*Anser*).

THE Goose, though not as handsome as the swan, is by no means an ugly bird; and, although it has a waddling gait, it is far less awkward than the swan in its movements. Geese are generally reckoned foolish birds, which is a libel, for they are very sagacious, and capable of great attachment. I have read, but do not now recollect where, of a goose which attached itself to its master, who was a farmer, watched for him, and when he left his house, accompanied him in all his rambles. One day he was taken ill, and was for some time confined to his bed; the bird, by some means, knew the room in which he was, and sat on the grass, looking up at the window of it, in the most disconsolate manner, and when he shewed himself, its joy was excessive. It went with him to the market-town, at some little distance, keeping up with him by running and flying, and was never happy but in his presence. At last, this

excess of affection became troublesome : the farmer was bantered about the strange alliance, and, in a moment of ill humour, he ordered the poor goose to be killed. It is not surprising that he should never think again of his feathered follower without sharp feelings of remorse, which he richly deserved to feel.

A very curious presentiment of approaching death is related by a Mr. Brew, of Ennis, who says:—"An old goose, that had been sitting on her eggs for a fortnight, in a farmer's kitchen, was perceived, on a sudden, to be taken violently ill. She soon after left the nest, and repaired to an outhouse, where there was a young goose of the first year, which she brought with her into the kitchen. The young one immediately scrambled into the old one's nest, sat, hatched, and afterwards brought up the brood. The old goose, as soon as the young one had taken her place, sat down by the side of the nest, and, shortly after, died. As the young goose had never been in the habit of entering the kitchen before, I know of no way of accounting for this fact, than by supposing that the old one had some way of communicating her thoughts and anxieties, which the other was perfectly able to understand."

The Warlike Goose, of Paisley, was so called from its love of soldiers, and by its walking, like a sentinel, backwards and forwards before the jail. It had arrived at Paisley when the river Cart had overflowed, no one knew from whence, and was secured in order to be eaten; but it was so old that it was thought useless to dress it : its life, therefore, was spared, and it was lodged in the stable-yard of the Saracen's Head Inn, passing from one tenant to another, as a fixture upon the premises. It was irresistibly attracted by a red coat

and musket, and listened eagerly to the roll of the drum, or the call of the bugle; it paced up and down with the sentinel, stopped when he stopped, and faced when he faced, continuing night and day, without being seen to sleep, as long as a military force was placed over the jail, and then continuing by itself for a considerable time after it was withdrawn. It then attached itself to every serjeant or corporal that came into the town, or a recruiting party; wherever a knot of soldiers was to be seen, there was the goose, apparently listening to their conversation. It had other friends to whom it paid visits, and when soldiers were billeted, with a strange intelligence, it waddled to the door of the Chamberlain's office, walked to and fro, and attached itself to horse and foot, regulars and volunteers; and whoever wore a military uniform received its attention, following them like their shadow. It also selected for friends some of the subordinate officers of justice, preferring those who were conspicuous for size. The last year of its life it became nearly blind; and knotty excrescences upon its legs, with broken toes, rendered it lame; but it continued its peculiar habits to the last, and died, with a slight flutter of its wings, in its own stable-yard. It was regretted by the whole town; and its age was computed to be nearly a hundred years.

The rearing of geese is a most lucrative employment, only equalled by that of sheep; for not only are vast numbers brought to table, but all their feathers are useful. Goose-liver pie is a luxury better known on the Continent than in England. Those of Alsace are reckoned the best, and the geese which supply them are crammed in a peculiar manner, in order to increase the size, and improve the flavour of this organ.

DUCKS (*Anas*).

THERE is no part of the world in which these birds are not to be found; each species having those habits which best adapt it to the country in which it dwells. Some of them have very exquisite plumage, the colours of which are varied shades of blue, green, and brown, mixed with white; and the males are more beautiful than the females. They chiefly lay their eggs upon rocks, but some few roost in trees. They are easily tamed, and Mr. St. John thus speaks of some Sheldrakes, which were domesticated on his premises. “When they asked for food, they patted the ground with their feet in an impatient and rapid manner, as they do when wild, to make the worms come out of the earth; they were very bold and fearless, ate anything, and fed from the hand. They were extremely pugnacious, and became masters of the poultry-yard.”

Wild Sheldrakes lay their eggs in old rabbit holes, several feet under ground. The male bird stands and struts on some hillock till low water, when the female leaves her eggs for a little while, and, after flirting together for a short time, they fly away to the sea shore for food. On returning, the female flies round the hole several times, to see that nothing is amiss. They both have a quick, smart step, much less waddling than that of other ducks. Our tame species comes from the Mallard, and they never lose their preference for marshy places and bogs; and they will leave the clean, fresh ponds, and frequent the dirtiest pools and gutters with delight. Mr. Saul gives an instance of sagacity nearly

in the following terms:—"I have now a fine duck, which was hatched under a hen, there being seven young ones produced at the time. When these ducks were about ten days old, five of them were taken away from beneath the hen by the rats, during the night time; the rats sucking them to death, and leaving the body perfect. My duck, which escaped this danger, now alarms all the other ducks and the fowls, in the most extraordinary manner, as soon as rats appear in the building in which they are confined, whether it be in the night or the morning. I was awakened by this duck about midnight, and, as I apprehended, the rats were making an attack. I got up immediately, went to the building, and found the ducks uninjured. I then returned to bed, supposing the rats had retreated. To my surprise, next morning, I found that ten young ducks had been taken from beneath a hen, and sucked to death, at a very short distance from where the older duck was sitting. On this account I got a young rat dog, and kept it in the building; and when the rats approach, the duck will rouse the dog from sleep, and as soon as the dog starts up, the duck re-settles herself." It must be remarked, that ducks return the compliment, and swallow rats when they can get them.

The soft plumage on the breast of the Eider Duck, is too well known to need description here. It is chiefly collected in Iceland, and taken to the north of Germany; but might be easily procured in this country, for these birds frequent the northern parts of Great Britain.

An interesting proof of the affection which ducks shew toward each other, is given by Dr. Stanley. "A pair of Muscovy Ducks were landed at Holyhead from a Liverpool vessel, returning from the coast of Africa.



THE DUCK ROUSING THE DOG.



The male was conveyed to a gentleman's house, and put with other ducks, towards whom he evinced the utmost indifference: he evidently pined for the loss of his mate; but she was brought after a time, and let loose; he did not at first see her, but when, on turning his head, he caught a glimpse of her, he rushed towards her with a joy which was quite affecting. Nothing after that would induce him to quit her, he laid his beak upon hers, nestled his head under her wing, and often gazed at her with the greatest delight."

The Chinese, who are the most skilful managers of poultry in the world, pay peculiar attention to ducks, and often hatch them in ovens.

I cannot close this part of my work without mentioning a remarkable faculty possessed by some birds, to which my attention was first drawn by the following passage, in a number of that excellent periodical, "Chambers's Edinburgh Journal." "On listening to the notes of some songster in a tree, with tolerably thick foliage, the sound seems to come, sometimes from the summit of the extreme branch on the right, sometimes from the midst of that on the left; now from the highest twigs, and again from the central shade, all the while that the bird has not shifted its original position." In illustration of this, the following anecdotes are recorded by a contributor to Newman's Monthly Magazine of Natural History. "While walking one day along the banks of the Tweed, and while resting in the shade, I was attracted by the note of a magpie, just above my head. I wondered that the wary bird had suffered me to approach so near it, and, very noiselessly, I tried to discover the distance of my chattering neighbour. The

voice danced about like a Will-o'-the-Wisp; 'twas now here, now there; one moment on the top of a fir, the next in the thick of an elm! I strained my eyes, and got a crick in the neck, but never a glimpse of him of the lustrous green, black and white. I believe I spent ten minutes in vainly seeking to detect him, and I determined at last to ascertain whether or not it was a magpie, that had undergone metamorphosis, and a bird was now a *vox et præterea nihil*. I threw a stone, not at the place whence the sound seemed last to issue, but at one of them; my mysterious friend took the hint, he disclosed himself, and departed.

“On another occasion, about the same time, I was walking along a road, on the left of which was a wheat-field, and at the bottom of the field a pond, which I knew to be tenanted by divers moor-hens. About fifty yards above the gate, out of the road into the fields, and three hundred yards from the pond, I heard the note or cry of the moor-hen; I was convinced the bird was within twenty or thirty yards of me, or rather, it never entered my mind that it was not. I therefore went quietly and cautiously to the gate, and thought I should most likely be able to see the bird, supposing it was likely to be moving towards the pond. On reaching the gate, the sound seemed to come from a point twenty yards lower down the field. I waited some minutes; still it came from this same point. I moved on; it kept apparently at about the same distance before me; when I stopped, it stopped too—I mean, it seemed to come, during each halt, from one and the same spot, about twenty yards in advance of me. When, at length, I got to the pond, there was the bird moving about at its leisure, croaking away in the same measured manner as it had been doing

for the last twenty minutes, and not appearing at all conscious that its unmusical note had anything in it capable of interesting even a wandering naturalist. The bird was at the pond, unquestionably, when I first heard it; and I suppose had never moved ten yards from it all the while I had been listening and watching; and yet at first, as at every successive period, I could have sworn that it was within thirty yards of me. Now, I have no theory to offer on this matter. I state the simple facts; and, I dare say, a hundred other observers can confirm them, if they do not think the task too trifling. I think that birds can produce some such effects *at will*; but I also suspect that some of these may be, or must be, accounted for on other grounds than the mere volition of the bird that produces them. We could add many similar experiences; and believe that certain birds do possess such a power, which they occasionally use for the purpose of misleading their enemies, though in many instances they appear to indulge in it for mere amusement. On the other hand, it must be borne in mind, that our senses, and especially that of hearing, are liable to innumerable deceptions, caused by echoes, obstructions to the direct progress of the sound; and, above all, from the fact that the ear requires a certain amount of experimenting before it can decide exactly as to the position from which any new or unfamiliar sounds may proceed."—From Mr. R. Q. Couch's paper in the *Zoologist*, as quoted in *Chambers's Edinburgh Journal*.

Mr. Broderip calls the Grasshopper Warbler (*Sylvia Locustella*), "that extraordinary ventriloquist," whose whisper, according to White, seems to be close by, though at an hundred yards distance; and when close at your ear, is scarcely any louder than when a great

way off. And, to end the examples which have come before me, is the curious sound uttered by the male Pinnated Grouse of North America, which amounts to a species of ventriloquism. At the time of sending forth this cry, the region of the throat of the bird is sensibly inflated and swelled. On a still morning it may be heard for three or four miles, some say even five or six ; and when it is close to the hearer, appears to be a mile or two distant.

ANECDOTES OF REPTILES.



I now pass from the most aerated, the most vigorous beings in creation, to those which commence the scale of a comparatively sluggish existence, equally adapted, however, to the places which they hold in the animal kingdom. Their heart is so formed that it only sends a portion of their blood into their lungs to receive atmospheric air, and the rest returns to the body without this refreshing process. In consequence of such an arrangement, their blood is cold, their muscular strength inferior to that of birds and beasts, and although they at times leap vigorously, run swiftly, and exert a crushing power with their muscles, their habits are idle and slothful, their digestion is slow, they chiefly crawl and swim, and their sensitiveness to touch is considerably blunted. In countries which have a cold winter season, they generally pass it in a state of lethargy. They vary much in form, both internally and externally; some are subject to changes which entirely alter their habits and appearance; some have teeth, others have not; some of them are dangerous to other animal life; some are perfectly harmless; some kill by means of the deadly venom which they secrete; some destroy by

mere force; some come into the world enclosed in eggs; and some are hatched within the mother's body.

Such is the outline of their general characters, and in particularising their individual attributes, I first take the

CROCODILES (*Crocodilia*).

THE enormous creatures of this name, which inhabit the rivers of Africa and India, are perhaps the most formidable of all the reptiles which destroy by force. Their numerous and sharp teeth, their wily disposition, added to their size and strength, cause them to be feared and avoided; and yet they were sacred animals in ancient Egypt.

A droll circumstance took place in a merchant's store at Bathurst, on the river Gambia, while I was there, and which created laughter throughout the colony. A friend in England had requested this merchant to send him some Crocodile's eggs; and they were accordingly packed in sand, and the barrel which contained them stowed away in the warehouse, till a vessel should sail and take them in charge. Some time after, as the owner of the premises and one of his servants were arranging some other packages, they heard a tapping noise which was unaccountable, and which proceeded from one corner. They suspended their operations and listened; and the native servants, who are very superstitious, at first refused to seek further. The merchant, however, insisted peremptorily, and himself set the example; and as they moved the

packages, the cask in which the crocodile's eggs had been placed became exposed, and no sooner was it freed from the superincumbent weight, than out flew the heading, and several dark creatures emerged from the sand. Away rushed the natives, in the full belief that demons had been released, leaving their master to their mercy, who very prudently killed all the young crocodiles as they issued from their confinement, where they had been hatched. They abound in the above river, and we frequently saw persons who had lost an arm, or been otherwise maimed by them, happy to have escaped with life. My readers will probably recollect that Mungo Park's man saved himself from one by attacking it about the eyes, and I often heard of this being the best means of defence.

On one occasion a party of us were obliged to cross a creek which opened into the river, and as our horses were to swim after the canoe, we dared not trust them in the water until several guns had been fired to frighten the crocodiles, which were basking on the sand-banks on each side. On hearing this noise, accompanied by loud shouts, they lazily rose, and slunk off to their holes. They were of an immense size at the salt (brackish) ponds near Cape Coast Castle; and soon after my arrival there, I was not a little astonished to see eleven men bring a dead one upon their heads into the spur of the castle. It was at least fifteen feet long, and convinced me of the incorrectness of many representations of them in works where they ought to have been correct. There still exists a conventional mode of portraying them, with serpentine tails of considerable length; whereas, such action is impossible with the true crocodile, from the size and stiffness of

the scales, and from the thickness and want of length in this appendage. They can make a wide curve with it, simultaneously with the body; they can raise it, and they constantly lash the water into foam, by moving it furiously from side to side, but they have no possibility of twisting it about like a snake.

Two partially tamed crocodiles were kept in a pond at Dix Cove, on the North-western coast of Africa, by the priests, who, dressed in white garments, constantly fed them with white fowls, as commanded by the fetish, according to their account. No sooner, therefore, did the crocodiles see anything white approach the pond, than they immediately issued forth, in expectation of their accustomed food. An English gentleman and lady, who landed at Dix Cove on their way to Cape Coast, being desirous of seeing the crocodiles, took their way to the pond, each clad in white. As soon as they approached, the reptiles eagerly rushed out to meet them, and the strangers rushed back; if the truth be told, the gentleman pushed past the lady, and left her to her fate; but she was rescued by the priests, who advanced with the offering, and for whom, in common prudence, the parties ought to have waited.

In Eastern Africa crocodiles are harpooned, and when they feel themselves wounded, they struggle furiously, so that it is dangerous for the boat, or canoe, to remain near them; but there is a much more dangerous mode of destroying them, which is diving under them, and cutting them in the parts where alone they are vulnerable. They, however, have their friendly attendants to warn them of danger, as Mr. Curzon tells us in the following words:—

“I saw, a long way off, a large crocodile, from twelve to fifteen feet long, lying asleep under a perpendicular bank about ten feet high, on the margin of the river. I stopped the boat at some distance, and noting the place as well as I could, I took a circuit inland, and came down cautiously to the top of the bank, where, with a heavy rifle, I made sure of my ugly game. I had already cut his head off in imagination, and was considering whether it should be stuffed with its mouth open or shut. I peeped over the bank; there he was, within ten feet of the sight of the rifle. I was on the point of firing at his eye, when I observed that he was attended by a bird called a zic-zac. It is of the plover species, of a greyish colour, and as large as a small pigeon. The bird was walking up and down, close to the crocodile's nose; I suppose I moved, for it suddenly saw me; and, instead of flying away, as any respectable bird would have done, he jumped up about a foot from the ground, screamed ‘zic-zac, zic-zac,’ with all the powers of its voice, and dashed himself against the crocodile's face two or three times. The great beast started up, and, immediately spying his danger, made a jump into the air, and, dashing into the water with a splash which covered me with mud, he dived into the river and disappeared. The zic-zac, to my increased admiration, proud, apparently, of having saved his friend, remained walking up and down, uttering his cry, as I thought, with an exulting voice, and standing every now and then on the tips of his toes in a conceited manner, which made me justly angry with his impertinence.”—*Visits to the Monasteries of the Levant, by the Hon. Robert Curzon.*

The glands of crocodiles secrete musk, which is much

prized in the East as a perfume for the hair, when mixed with ointment.

Crocodiles are extremely voracious, and eat all they can get of animal nature, generally letting it grow putrid before they commence feeding on it. It is supposed that they cannot swallow it under water.

The lieutenant of a war-brig, in which I once sailed, had a young crocodile, which he vainly tried to tame; it was not more than a foot long, and its teeth were already formidable. It put itself into a fury when it saw itself in the large silver hunting watch of its master; and seizing it between its teeth, left their marks upon the case, in the shape of deep indentations.

The tremendous animal which infests the river Ganges, is another species of crocodile, called the Gavial, and is the largest; sometimes measuring twenty-five feet. All crocodiles have about thirty teeth, in an irregular row, on each side, and as fast as these fall, they are supplied by new ones, equally sharp and powerful; the mouth opens further back than the hinder part of the skull, and the expression of the head is always that of fierceness, for, as they have no lips, even when their mouth is closed, they look as if they were grinning and about to bite; the sudden closing of the jaws sounds like the shutting of a gate. There is, however, something grand about their expression, and they are much finer and handsomer animals, than the ugly, stupid-looking hippopotamus, which is often found in the same rivers. They sometimes lay as many as a hundred eggs, which, unlike those of other reptiles, have a very hard, shining, and brittle shell; they are about the size of those laid by a goose, but are longer in shape. Their flesh is eaten by some, but others have

a dislike to the strong taste of musk which pervades it. The noise which they chiefly make, is a wailing cry ; and recent travellers assert that they are to be found in the West Indies.

ALLIGATORS.

WE meet with Alligators, or *Caïmans*, in both Americas ; they are smaller than crocodiles, and have more slender proportions. They live in fresh water, seldom venturing into that which is even brackish, and congregate in numbers. They consume vast quantities of fish, which they are said to attract by their musky smell. Report also says that they prefer the flesh of the negro to any other food ; but as this is not often to be had, they are not otherwise particular. They hide what they cannot eat, and like it best when putrid. Their cry is said to resemble the roaring of a bull. They are much more active than crocodiles, and yet they do not seem to be as much dreaded, for they are frequently hunted in the most daring manner. The story told by Mr. Waterton, of riding on the back of an alligator which had a hook in its mouth, and was dragged ashore while he was mounted, and held its two fore paws over its back like a bridle, has appeared to many as a problematical history ; and with my recollections of crocodiles, and my ignorance of the gentleman's character, I was among the sceptical. My visit to Walton Hall, however, where I saw both the rider and his steed, removed every shadow of doubt, and I felt ashamed of my incredulity.

In times of great drought, alligators have been known to lie torpid under the soil, and the story of the Indian who unconsciously erected his hut over the body of one of them, and only became acquainted with the fact by the revival of the animal, and the tottering of his habitation, has often been related as a proof. They abound in hundreds in the marshy forests of Central America; and the thick, dark slime of these places, seems to be a fitting abode for reptiles of so formidable a character. It is said that they will not attack a naked man in the water, provided that he constantly remains in motion. The females have the credit of taking more care of their young than others of their class, for they lead them to the water as soon as they are out of the shell, and even before they are hatched they never go far from them. Vultures, however, devour a great many, the male alligators do the same; and to these devouring enemies may be added fishes and turtles.

I here copy a passage from Mr. Audubon's graphic description of an alligator hunt. "In the immediate neighbourhood of Bayou Sarah, on the Mississippi, are extensive shallows, lakes, and morasses; they are yearly overflowed by the dreadful floods of that river, and supplied with myriads of fishes of many kinds. . . . Thither, in the early part of the autumn, when the heat of a southern sun has evaporated much of the water, the squatter, the hunter, the planter, all go in search of sport. The lakes then are about two feet deep, having a fine sandy bottom. . . . The long, narrow Indian canoe, kept to hunt these lakes, and taken into them during the freshet, is soon launched; and the party seated in the bottom is paddled, or poled, in search of water game. Then, on a sudden, hundreds of alligators

are seen dispersed all over the lake; their head and all the upper part of their body floating like a log, and in many instances so resembling one, that it requires to be accustomed to see them, to know the distinction. Millions of the large wood-ibis are seen wading through the water, muddling it up, and striking deadly blows with their bills on the fish therein. Here are hordes of blue herons; the sand-hill crane rises with hoarse note; the snake birds are perched here and there on the dead timber of the trees; the cormorants are fishing; buzzards and carrion crows exhibit a mourning train, patiently waiting for the water to dry, and leave food for them; and far in the horizon, the eagle overtakes a devoted wood-duck, singled from the crowded flocks that have been bred there. It is then that you see and hear the alligator at his work; each lake has a spot deeper than the rest, rendered so by these animals, who work at it; and always situated at the lower end of the lake, near the connecting bayous, which, as drainers, pass through all these lakes, and discharge sometimes many miles below where the water has made its entrance above, thereby ensuring themselves water as long as any will remain. This is called by the hunters the alligator's hole. You see them there lying close together. The fish, that are already dying by thousands, through the insufferable heat and stench of the water, and the wounds of the different winged enemies constantly in pursuit of them, resort to the alligator's hole to receive refreshment, with a hope of finding security also, and follow down the little current, flowing through the connecting sluices; but no! for, as the water recedes in the lake, they are here confined. The alligators thrash them, and devour them whenever they feel

hungry, while the ibis destroys all that make towards the shore.

“By looking attentively on this spot, you plainly see the tails of the alligators moving to and fro, splashing, and now and then, when missing a fish, throwing it up in the air. The hunter marks one of the eyes of the largest alligators, and as the hair trigger is touched, the alligator dies. Should the ball strike one inch astray from the eye, the animal flounders, rolls over and over, beating furiously about him with his tail, frightening all his companions, who sink immediately; whilst the fishes, like blades of burnished metal, leap in all directions out of the water, so terrified are they at this uproar. Another and another receives the shot in the eye and expires; yet those that do not feel the fatal bullet, pay no attention to the death of their companions, till the hunter approaches very close, when they hide themselves for a few moments, by sinking backwards.”

Of their ferocity Mr. Waterton gives a proof in his Wanderings; he says, “One Sunday evening, some years ago, as I was walking with Don Felipe de Ynciarte, governor of Augustura, on the bank of the Oroönque, ‘Stop here a minute or two, Don Carlos,’ said he to me, ‘while I recount a sad accident. One fine evening last year, as the people of Augustura were sauntering up and down here, in the Alameda, I was within twenty yards of this place, when I saw a large cayman rush out of the river, seize a man, and carry him down, before any one had power to assist him. The screams of the poor fellow were terrible as the cayman was running off with him; he plunged into the river with his prey; we instantly lost sight of him, and never saw or heard him more.’”

I gladly quote the following instance of affection in an alligator, from Mr. Jesse's pages, who says that he can vouch for its veracity; and it is quite refreshing, in the history of reptiles, to find anything that does not bring fresh instances of murder and rapacity:—"A person who superintended some works for the American government, caught a young alligator in a swamp. This animal he made so perfectly tame that it followed him about the house like a dog, scrambling up the stairs after him, and shewing much affection and docility. Its greatest favourite, however, was a cat, and the friendship was mutual. When the cat was reposing herself before the fire (at New York) the alligator would lay himself down, place his head upon the cat, and in this attitude go to sleep. If the cat were absent the alligator was restless, but he always appeared happy when the cat was near him. The only instance in which he showed any ferocity was in attacking a fox, which was tied up in the yard. Probably, however, the fox resented some playful advances which the other had made, and this called forth the anger of the alligator. In attacking the fox, he did not make use of his mouth, but beat him with so much severity with his tail that, had not the chain which confined him broken, he would probably have killed him. The alligator was fed on raw flesh, and sometimes with milk, for which he shewed great fondness. In cold weather he was shut up in a box, with wool in it; but having been forgotten one frosty night, he was found dead in the morning." I cannot forbear to add it was a great mercy that such a pet died without committing any serious injury.

I believe it is Mr. Byam who has supplied me with

the following : “ Alligators are very good eating, especially the tail, and are so frightened at the sight of a jaguar that they are paralysed, and suffer him to bite off their tail. Alligators lay eggs in a pile of leaves three feet high, like a hay-cock. . . The alligators, about the throat and lower sides of the neck, are soft, and may be thrust through with a spear or sword. . . They stun any large, swimming animal, by a blow with their tail, and drag their prey to the bottom ; they always think themselves secure when in the water. A native Indian one day caught an alligator in shallow water with a lasso attached to the pommel of his saddle ; he had long wished to kill him, as he had devoured so many of his cattle ; he rode off, hoping to drag him out of the water, but he was stronger than the horse, which he pulled into the river, and then swam away. The man tried to save the lasso, but his hunting sword was too blunt ; then he got at a knife, with which he severed the thong ; but never, he said, did a man have such a journey, pulled over large stones and rocks, through deep water and deep mud, and expecting every minute to come to a deep fall. He thus escaped, but was determined to destroy his enemy. He saw him with a part of the lasso round his neck like a necklace ; he then loaded his gun with two balls, and tied a howling dog to a tree close by, with a string round his leg ; he hid himself behind the tree, and pulled the dog’s leg to set him howling. In a short time the alligator lifted his head above the water ; the dog howled still more ; the alligator, after looking round to see if all were clear, came up the bank to seize him, and then the native fired into his eye, and killed him instantly ; and, said he, ‘ I slept

soundly that night, and gave the cur dog a good supper.' ”

I have met with the ensuing passages in the course of my readings, but cannot now tell to whom I am indebted for the information.

“ Alligators are timid animals ; if a person will place himself in safety, and imitate the cry of a dog, they will rush in a body to the spot, and thus leave the water clear for his companions. It is supposed the cry imitates that of their young ones, and that they have not any preference for dog's flesh. The females feed their children with food masticated and disgorged by themselves. . . Four gentlemen, in Spanish Haiti, were sporting, and divided in search of game, trusting to the firing of their fowling-pieces to tell their whereabouts. A priest, who was one of the party, was alone missing in the evening, when they were about to return home. No one had heard his gun during the day ; they looked for him, and at last found him seated in a tree, where he had been obliged to take refuge from an alligator, which had pursued him, leaping after him, crooking its back like a cat. After he had gained the tree, the animal crouched in the thicket close by, and he dared not come down till his companions arrived and frightened it away, as he was convinced it was waiting for his descent.”

“ An alligator was kept in Oxford-street by a woman, in an open washing-tub, and she fed him by opening his jaws, and chucking in sprats, etc. He was quite domesticated, and liked to be fondled. When the weather was cold, the water was kept at a tepid temperature, and several times during the day he would leave his tub, and bask before the fire.”

A cayman was surprised lingering in a pond after a night's plunder of ducks and ducklings; he was shot at, wounded, and rose out of the pond; he then went towards a morass, when an African seated himself astride on his back, snatched up his fore-paws, and held them doubled up. He was thus thrown upon his snout, but he could not stir half a yard from the spot, so he made a sort of circular motion. The African kept his seat, and secured him till the gun was reloaded, and he was shot through the brain—an adventure somewhat similar to that of Mr. Waterton, and even more dangerous.

MONITORS (*Tupinambis*).

THESE lizards are inhabitants of both hemispheres of the world, and are covered with tubercular scales, distributed in rings or bands, on the back and sides. Some of them are of a large size; their tongue is fleshy, and they have the power of darting it out to a considerable length, and their toes have claws. Some live on land, and others in water; and the first, from their enormous size, used in former times to be taken for crocodiles; their tails are round, and they will devour anything which they can overcome.

Southern Africa affords very large specimens of the terrestrial Monitor; and Dr. Abel Smith says, “It is usually met with in rocky precipices, or on low, stony hills, and when surprised, seeks concealment in the chinks of the former, or in the irregular cavities of the latter; and when any projections exist upon the surface

of the rocks or stones, it clasps them so firmly with its toes, that it becomes a task of no small difficulty to dislodge it, even though it can be easily reached. Under such circumstances, the strength of no one man is able to withdraw a full-grown individual; and I have seen two persons required to pull a specimen out of a position it had attained, even with the assistance of a rope fixed in front of its hinder legs. The moment it was dislodged, it flew with fury at its enemies, who by flight only saved themselves from being bitten. After it was killed, it was discovered that the points of all the nails had been broken previously, or at the moment it lost its hold. It feeds upon frogs, crabs, and small quadrupeds, and, from its partiality to the two former, it is often found among rocks near to springs or running streams, which fact having been observed by the natives, has led them to regard it as sacred, and not to be injured without danger of drought."

The *Sauve-gardes* are a species which inhabit tropical America, and live in woods and fields, and are said to make burrows in sandy tracts, and lie in them during the winter. When pursued they will take to the water; and one species is asserted, by D'Azara, to walk at the bottom, and to fight with great courage. Its flesh is much esteemed, and rings, made of its skin, are said to heal cutaneous disorders, and prevent paralysis. All eat fruit, insects, serpent's eggs, and honey. According to D'Azara, they attack hives of bees, by rushing upon them at intervals, and knocking them with their tail; by which means they drive the bees out, and take possession of their honey. Messrs. Duméril and Bibron found only the remains of insects in those which they dissected.

I do not know of what species it was, but a monitor was brought on board the vessel in which I visited the Isles de Los. A native woman had given it to one of the men who served in the boat; it was just killed, and she made signs for him to eat it. I was complimented by the presentation of it to myself. I however declined it; for I was at that time horrified at the idea of eating lizards; the men then had it cooked for themselves, and finding it excellent, entreated me to taste. I did not repent of my compliance, for I found it like the most delicate chicken. One species of *sauve-garde* is said to warn men of the approach of crocodiles, from which belief it derives its name; the means it employs are, hissing and whistling. Aquatic monitors bear the same reputation; but many look upon this assertion as a popular error. These water-monsters eat fishes, tortoises, other lizards, bird's eggs, and small quadrupeds, for which they lie in wait on the banks of their habitations, and which they pull into the water. The thigh bone of a sheep was discovered in the stomach of one of them.

LIZARDS (*Lacerta*).

THE multitudes of Lizards which inhabit most parts of the world, and in some instances, I may say, beautify the land of their birth with their brilliant colours, their flashing gleams of tinted light, and the rapidity of their graceful movements, form them into by far the most interesting portion of reptile creation. I for some months lived in a house where I could see one of the

outworks of the castle at Cape Coast, which was appropriated to the fuel used within. It was a great resort of lizards; and I derived much amusement from watching them. I have since visited the finest collections of natural history, and read descriptions of these reptiles, and am convinced that we are far from knowing all the species which this one country affords. Some, larger than the rest, were distinguished by having sober-coloured bodies of a leaden hue; but on their heads, large and bright orange-coloured crests. One day as I was sitting by myself in the verandah of the school-house built on a neighbouring hill, I saw two of these creatures pop their heads out from a hole at one end; a slight noise made me turn my head the other way, and there, in an opposite direction, were two more of the same species. I sat perfectly still, and one party cautiously approached the other; then ensued a scampering and frolicking which was highly amusing; they making no ceremony with me, but rushing past and over me, as if I could not be an enemy; the heavier tread of my companion, however, to my regret, drove them away.

It is not necessary here to dwell upon the characters which divide lizards into various groups, all of which depend on their tongue, the number of their toes, etc., etc.; but I proceed to the various portions as they afford subject for remark.

TRUE LIZARDS.

THESE are the prettiest of the whole family; and to them belong the only two which inhabit our own country, the Viviparous and the Sand Lizard. The first, as its name denotes, brings forth its young in a living condition, and may be often seen basking in the sun on heaths and sandy banks, and rushing, on the least alarm, to their holes. These, as well as some others of foreign countries, have such brittle tails, that the least touch makes them fall off, and, as long as tails are necessary, it is happy for them that nature has given them the power of reproducing their lost member. A superabundance of this power, however, has occasionally some awkward results, for if the accident merely crack the tail on one side, a new tail will sometimes spring from the crack, and thus give them two at a time. On a certain road in Madeira it was observed that all the lizards were without tails; and the circumstance was accounted for by its being the favourite resort of the midshipmen who landed for a day's pleasure from the different ships of war which touched at the island, and a part of that pleasure consisted in knocking off the lizard's tails.

Dr. Drummond, in his "First Steps to Anatomy," says, that, being on the sea-shore at Palo Bay, in Sardinia, he observed a large lizard running for shelter under a heap of stones. He was just in time to seize it by the end of the tail, but suddenly the resistance made by the animal to his attempt to drag it from its hiding-place ceased, and he gave it up for lost; but he

as suddenly had cause for alarm himself, on seeing what appeared to be a small snake, leaping with great agility about his feet, and springing as high as his knee. He instantly started out of its way, and watched it at a respectful distance, when he found that it was the tail of the animal, which he had not been aware could so easily separate from the body.

Of the very few reptiles to be found in Ireland are the *Lacerta Agilis* and our common Eft, which exist in the north, so defying the assertion that there are none in that country. A curious superstition is current among the peasantry concerning the latter, which is that it has a propensity to jump down their throats, make a lodging in their stomachs, and multiply there in the most frightful manner. The only cure is to find a stream running directly south, and to lean over it with the mouth open, when the lizards will come out, one by one, and plunge into the water.

DRAGONS (*Teius*).

SOME lizards retain the old and fabulous name of Dragons, and their appearance justifies the appellation, for they have wings, and some have crests; but the former merely sustain them in their enormous leaps, and do not enable them to fly, which I believe dragons were always supposed to do. For exemplifications of the great winged dragons of heraldic and other fables, we must seek among the fossil remains of our own island, which show at least a foundation for stories which have come from we know not where, or by whom propagated.

In form, the lizards of Australia appear to be the modern cousins of ancient monsters, particularly that one which has what is called a frill, or tippet. This is an appendage covered with scales of different sizes, scalloped at the edges, supported by cartilaginous spines, and can be raised or depressed at pleasure. It begins at the back of the head, extends along the sides of the neck, and comes as far as the chest. When not standing upright it lies in plaits upon the shoulders.*

IGUANIANS (*Agamians*).

THE thick and notched tongue of this family throws them into a separate group from the lizards proper. Some have teeth, others have not; all have a dewlap, or fold of skin which stretches under the head and neck, so that it looks like a pouch. They are vegetable feeders, and their common name in the West Indies is Guana. They are sometimes five feet long, and the green Iguana or Venus of the natives, is said to yield the best dish which epicures could bring to a feast; it is not, however, reckoned wholesome. The eggs are also good eating, have a soft outer covering, and the yolk never boils hard. Sir Robert Schomburgh tells us that he has seen hundreds taken in a very short time from the sand-banks of the Essequibo in Guiana. Unless attacked they will not bite, but if annoyed they are extremely fierce.

Mr. Gosse gives a curious proof of the power of sound upon this lizard. He made a noose of small

* *Chlamydosaurus Kingii*.

twine, fastened it to the end of a switch, and went gently towards one of them whistling a lively tune. This so fascinated it that it allowed the noose to be passed over its head, and itself to be caught. As long as the whistling continued it was very quiet, but when the sound ceased it became very savage, bit at everything within its reach; its green colour became blackish, and it at last changed to a bluish black, with darker bands upon the body, brownish black upon the tail, and the only trace left of its original colour was about the eyes. It fiercely seized a piece of linen, and would not let it go for hours. When put into a cage, it darted wildly about and tried to bite everything it could lay hold of. At night it became green, and the changes were very rapid. After four weeks' confinement, it changed its skin and died in the operation.

A frightful species is found in Australia, called the *Moloch horridus*, which is so covered with scales of different forms, so bristling with spines of various sizes when the animal draws air into its body, and is so patchy with dull colours, that it exceeds all other lizards in ugliness and singularity of appearance.

The Basilisk of Guiana, which has a hood supported by cartilage, belongs to this family.

Mr. Bell gives the following account of one of the smallest of the iguanas. "Some years since," says this eminent naturalist, "I had in my possession two living specimens of the beautiful little green *Anolis* of the West Indies, a lizard about the size of our own smallest species. I was in the habit of feeding them with flies and other insects, and having one day placed in the cage with them a very large garden spider,

(*Epeira diadema*) one of the lizards darted at it, but seized it only by the leg. The spider instantly ran round and round the creature's mouth, weaving a very thick web round both jaws, and then gave it a severe bite in the lip, just as this species of spider usually does with any large insect which it has taken. The lizard was greatly distressed, and I removed the spider and rubbed off the web, the confinement of which appeared to give it great annoyance; but in a few days it died, though previously in as perfect health as its companion, which lived for a long time afterwards."

GECKOS.

THESE are heavy-looking lizards of sombre colour, and when they have any claws they are retractile, like those of cats. They live in all the torrid countries of the globe, have green staring eyes, very brittle tails, and are said to be phosphorescent at night. They change their skin, which operation is often very annoying to them, for the shreds are apt to hang about them for days. The under surface of their toes is so formed that they are able to climb not only vertical substances, but those which are inverted, such as ceilings, in the manner of flies. They present one great singularity, which was discovered by M. Duméril; the *inside* of their wide gullet is strongly coloured; sometimes with bright orange, or yellow, and at others with a rich black. They make a smacking sort of noise, such as that by which horses are urged to greater speed. Their

usual movements are slow, and they will wait patiently for hours watching for insects at the mouth of a hole, but they come forth at night with more activity, searching for prey. Report attributes to them the power of communicating poison to whatever they may touch, but there is no certain information on this subject. They are very rare in Europe.

A very small species of gecko used to come every evening from some crevice in the wall of one of the rooms at Annamaboo, in which fortress I lived for several months. It always appeared at the same hour, was always alone, always took the left-hand side of the window, and vanished in a hole underneath it. No one ever saw it go back, and it was therefore concluded that it returned by some other way. Its punctuality first attracted me, and I fed it with pieces of fruit, at first placed at the end of a stick for fear of alarming it, but it at last ate out of my hand, and if my offering were not forthcoming lingered on its way for the accustomed morsels.

A droll occurrence took place during my stay at this outpost, affording in so desolate a place tenfold amusement. The governor's and the officers' quarters were on opposite sides of the spur, and one day a large scorpion was seen in the surgeon's dispensary; it was searched for, but in vain, for it had disappeared among the bottles; the bottles were removed, and with them a few insects and centipedes, but the scorpion never came to light. During the same day I had visited the store-rooms of the fort with the captain of the guard; and he, on entering, laid the heavy key of the door upon the head of a cask. On going out he, without looking, reached out his hand to take it up, but I as suddenly

dashed it away, for instead of the key he was going to lay hold of an enormous centipede about a foot long; so that our minds dwelt on reptiles, as it were, the whole day. That same night, after the governor and his little staff had taken tea, we all separated for the night. The fort gates were locked, and the keys placed under the governors's pillow; no sound was heard except now and then the cry of the hyæna, the "All's-well" of the sentinels as they paced up and down the ramparts; and the lashing of the heavy surf of that shore. Suddenly some cries for help issued from the officers' quarters. I opened my window which looked on to them, saw a disturbance, and an instant after discerned the governor's messenger sent to know what was the matter. I caught the servant on his return, and when I enquired the reason of the bustle, the negro said, "Capitain, him find scorpion," and burst into a laugh. Glad to find it was nothing worse I went to bed, and the next morning at breakfast the mystery was explained. The above gentleman, for the sake of coolness, had moved his bed under the window, and a lizard had crawled into it; he laid himself down, put out his candle, and soon fell asleep. It was not long, however, before the lizard awakened him by crawling over his skin, and in the first moment of surprise he naturally thought it was the missing scorpion, and called most lustily to his neighbour, the doctor, for help. He was much laughed at, but I thought him perfectly justified in his alarm.

The gecko, of Cairo, is said to crawl over food, and cause it to give leprosy to those who eat of it. The Croaking Lizard, of Jamaica, is a gecko, and makes a noise resembling that which is produced by drawing a

stick across a comb. Its skin is so loose, that it will tear like wetted brown paper. Its tail comes off so easily, that it frequently loses it by the violent contortions in which it indulges.

CAMELEONS (*Camæleo*).

WHEN residing in Africa, I tried to tame some of the Cameleons brought to me, but I was not successful; they would not eat from my hand, and had they not frequently darted their long tongues out, imbued with glutinous fluid, to catch insects, invisible to me, I should have said that they did not eat at all. They all died, after five or six weeks' trial; and the same happened to a much larger cameleon, from the river Gaboon. They were sluggish and heavy in their movements, and very disagreeable-looking animals, with their skin-covered eyes (one of which will remain motionless while the other is moving about), their thick head and throat, and thin body. They frequently puff themselves out with air, by drawing it into their lungs; which has, perhaps, given rise to the assertion that they feed on air. Their power of changing colour has, I think, been much exaggerated. Mine became green and yellow, assumed lighter and brighter hues, but I could not see the bright blue or red substances on which I put them, reflected in their skins. Physiologists attribute the change which does take place, to the large portion of air which enters below the skin, and which is variously distributed, according to the state of the animal. I cannot help thinking that they vary according to their locality. Mr.

Hasselquist's observations seem to agree with mine ; but his cameleon was at times marked with large spots, yellow and green, and as soon as it turned yellow, "it contracted itself, and appeared empty and lean." M. D'Obsonville asserts that the original colour is green, the shades of which vary, and that when free, and in health, it assumes gradations of brown, red, or light grey ; when well-fed and in the open air, if provoked, it becomes a blue-green ; but when feeble, or deprived of free air, the prevailing tint is yellow-green. If surrounded and teased by a number of insects thrown upon it, or if one of its own species comes near, it exhibits all three tints of green. If dying, especially of hunger, yellow first predominates ; and when dead, it is the colour of dead leaves. Dr. Milne Edwards is said to have settled the question, but his writings on the subject are too elaborate and too long for insertion here.

In the *Magazine of Natural History* is an account of two which Mr. Slight received from Spain, and which he kept for several months in a wicker basket, in a bow-window. They slept for a considerable portion of the day, on a projecting ridge of the wicker-work. When the sun shone, they flattened themselves in order to receive a greater portion of its heat ; and they were like mine in Africa, of a greenish stone colour. If disturbed, they contracted their abdomen, expanded their ribs, and became instantly dark green, or indigo-green. Sometimes only one side changed colour.

The eyes were very bright, and turned in every direction with rapid jerks. Mr. Slight put cockroaches into a tin vessel, and one of the cameleons on the edge, with its head over the brim. After going round part of the vessel it distended its throat pouch, stretched out its

body, rested on its fore legs, and darted out its tongue with such force that it made the vessel ring. It caught the insect in the trumpet-shaped extremity of the tongue, and retracting it like lightning, the prey was soon masticated and swallowed. It would take three or four cockroaches, and not feed again for three or four days. Both slept with their tails firmly curled round one of the small divisions of the wicker-work; and when seen by candle-light, were of a pale, ashy blue colour, or a spectral blue. They were lost several times, and were always found in the folds of a chintz curtain, and never upon its blue lining.

SERPENTS (*Anguis*).

THESE reptiles better deserve their name than many others of their class, for they have not any legs, and seldom possess even the vestiges of limbs in the shape of hidden, rudimentary bones. During the whole of their life they are formidable enemies, not only to man, but other living creatures; and some, perhaps the greater, proportion of human beings regard them with the most unconquerable aversion, undiminished by the beauty of their colour, or the gracefulness of their movements, both of which attractions many of them possess in a most eminent degree. My own feelings of fear and dislike had been instilled into me from my birth, and encouraged from childhood to maturer age; so that it was not without horror that I contemplated frequent contact with them in a tropical climate; and I venture thus to enlarge upon my individual experience, that I

may be of service to those who may be similarly constituted, and have the same occasion to struggle against such an all-engrossing alarm. The first experiment which I made was at Elmina, the principal Dutch settlement on the Gold Coast; when, as I was walking in the vicinity of the town, a deadly serpent rushed across my feet; I stood, as it were, transfixed to the spot, but the first shock over, I was surprised to find myself safe, and from that moment took courage. I never could arrive at such perfection as to make pets of them as some have done, but I no longer viewed their probable approach as one of the worst evils of life. I have met them coming up the steps of my house, and assisted in their capture; and knowing of their existence in the hole of a wall, have preferred darting past that hole, when they drew their heads in, rather than take a more circuitous route to the kitchen or cook-house, always separated from the dwelling-house, and itself no unfrequent resort of such animals. I have seen huge ones coiled up fast asleep, and took no more trouble to avoid them than to walk softly past, that they might not be awakened. These adventures are nothing to the encounters I shall have to relate a little further on, and are merely mentioned to shew how the human mind, if we suffer it to do so, will accommodate itself to everyday occurrences. Whether, on returning to such countries, I should have all to do over again I do not know, but I suspect this might be the case, from the creeping disgust with which I see them at the Zoological Gardens.

The Slow, or Blind Worm of England, is perfectly harmless, and well known; its teeth are very small,

and when attacked it is so frightened, and becomes so stiff that it will easily break to pieces. In the same genus is one which is so brittle as to be named the Glass Serpent, and may with the least touch be divided into many pieces. I suspect it is to this division I may refer one which caused some sensation at Cape Coast while I was living there. A report was spread that the large tank, on which the inhabitants of the castle solely depended for their supply of water, was infested by an enormous serpent; and not only was the idea of drinking the water repugnant, but many declared the water would be poisoned. The governor determined to have the tank examined, although he was told that the serpent was so fierce it would kill any one who would dare to approach it; that it was some great fetish (false god); and that no one would venture to approach the tank any more. It was impossible to convince those who believed this by any reasonable means; so sending for his head cook, named Yahndee, who was a celebrated snake-killer, the governor offered him a handsome reward if he would capture the animal. Yahndee shook his head, and muttered something about the fetish, upon which the governor offered him a present for the fetish. This altered the case, and the priests and their deity propitiated, Yahndee opened the tank, and the enormous serpent turned out to be about a foot and a half long, and he was going to seize it near the head, when he suddenly recoiled with horror, and declared he could not touch it. On being questioned he said it had two heads, and thus was not only doubly poisonous, but if he seized it near one head the other would turn up and bite him. A glass of rum on the spot, and more promised when the feat was

performed, reanimated Yahndee's courage: he wrapped a cloth round his naked arm, and brought the reputed monster out in triumph. A closer examination proved that instead of two heads there was, in common parlance, no head at all, both extremities being alike, with the exception of a small orifice and a closing valve at one of the ends. It was never dissected, but was put into spirits, and was presented by Mr. Bowdich to the British Museum.

BOAS (*Boa*).

THESE formidable creatures, the terror of every place which they inhabit, are exclusively denizens of the new world. Their jaws are not fastened together, so that they are able to dilate them to the extent which the stretching of their very elastic skin will permit. They are brown in colour, occasionally mixed with pale yellow and white, and are beautifully marked with irregular spots and stripes. They swallow dogs, deer, and goats; some say even oxen, and men when they can get them. They entirely crush their prey in their strong muscular folds, cover them with their saliva, and then swallow them by degrees; so that they are often found lying with only part of their prey inside, and the rest hanging out of their mouth. In this state, and when digesting it, they may be easily destroyed, for they are unable to move. The following adventure of Captain Stedman I presume to have been with a Boa:—

“Something dark and moving in the bush was discovered to be a large snake, and Captain Stedman

determined to shoot it. He loaded his gun with ball-cartridge; his man David (a negro) cut a path with a bill-hook, and a marine followed with three more loaded firelocks. The negro exclaimed, 'Me see snakee,' and there lay the animal, rolled up under fallen leaves and rubbish, and so well covered that it was some time before they could perceive its head, with its forked tongue and bright eyes, which seemed to emit sparks of fire. Resting his gun on a branch, Captain Stedman fired, but missing the head, the ball went through the body, when the animal struck round with such astonishing force as to cut away all the underwood around him, with the facility of a scythe mowing grass, and by flouncing his tail, caused the mud and dirt to fly over the heads of the party to a considerable distance. They were by no means torpid spectators, but took to their heels and crowded into the canoe. David entreated his master to renew the charge, assuring him that the snake would be quiet in a few minutes, and was neither able nor inclined to pursue him, and proved his belief in this by walking before him till he should be ready to fire.

"The snake was again quiet, and a little removed from his former station, but his head, as before, was quietly lying out among the fallen leaves, moss, and rotten bark. Again did Captain Stedman fire, and again was he unsuccessful; and the snake, slightly wounded, sent up a cloud of dust and dirt which made them retreat again to the canoe. He wished to give up the exploit, but David begged permission to kill the snake himself; so both discharged their guns at once, and the snake was shot through the head. Though mortally wounded, the animal still continued to writhe

so much that it was dangerous to approach him. David however made a running noose in a rope, threw it over the reptile's head, and all united their strength to draw him to the canoe, where he was fastened to the stern and towed along. Being still alive he swam like an eel, was twenty-two feet and some inches long, and as thick as a boy of twelve years old.

"The snake was taken ashore to be skinned, and David having climbed a tree with the end of the rope in his mouth passed it over a strong bough; and he and the other negroes hoisted up the snake and suspended it from the tree. David, with a sharp knife between his teeth, left the tree and clung fast to the snake, which was still twisting about, and ripping him up stripped off the skin as he descended. Besides the skin, four gallons of oil were collected, and perhaps as much more wasted. This was made over to the hospital, it being considered an excellent remedy for bruises. The negroes cut the flesh in slices for eating, declaring it was very good and wholesome. He had a broad flat head, a double row of teeth, was covered all over with scales, some about the size of a shilling, and under the body, near the tail, he was armed with two claws like cock's spurs." These are vestiges of legs, and enable boas to cling better to the branches of trees, whence they spring upon their prey.

The next anecdote is taken from the *Edinburgh Literary Gazette*. An officer, residing with a friend in British Guiana, employed himself chiefly in shooting and fishing in a neighbouring river. One sultry day, tired with unsuccessful sport, he threw his lines, and drew his canoe to the river's edge, for the purpose of refreshing himself in the water. Having done so, he

stretched himself, half dressed, on the benches of his canoe, with his gun at his head, loaded for a shot if a chance should occur. In this position he fell asleep; "I know not how long I may have slept," he continues, "but I was roused from my slumber by a curious sensation, as if some animal were licking my foot. In that state of half stupor, felt immediately after waking from sleep, I cast my eyes downward, and never, to my dying day, shall I forget the thrill of horror that passed through my frame on perceiving the neck and head of a monstrous serpent covering my foot with saliva, preparatory, as immediately flashed upon my mind, to commencing the process of swallowing me. I had faced death in many shapes—on the ocean—in the battle-field—but never till that moment had I conceived he could approach me in a guise so terrible. For a moment, and but a moment, I was fascinated. But recollection of my fate soon came to my aid, and I quickly withdrew my foot from the monster, which was all the while gazing upon me with its basilisk eyes, and at the same instant I instinctively grasped my gun, which was lying loaded beside me.

"The reptile, apparently disturbed by my motion, (I conceive it had previously, from my inertness, taken me for a dead carcase,) drew its head below the level of the canoe. I had just sufficient time to raise myself half up, pointing the muzzle of my piece in the direction of the serpent, when its neck and head again appeared, moving backwards and forwards, as if in search of the object it had lost. The muzzle of my gun was within a yard or two of it; my finger was on the trigger; I fired, and it received the shot in its head. Rearing up part of its body into the air with a horrible hiss, which

made my blood run cold—and by its contortions, displaying to my sight great part of its enormous bulk, which had hitherto escaped my notice—it seemed ready to throw itself upon me, and to embrace me in its monstrous coils. Dropping my gun, by a single stroke of the paddles I made the canoe shoot up the stream out of his reach. Just as I was escaping, I could observe that the shot had taken effect, for blood was beginning to drop from its head. But the wound appeared rather to have enraged than subdued it. Unfortunately, all my shot was expended, otherwise I would most certainly, at a respectful distance, have given it another salutation of the same kind as I had just bestowed.”

The officer returned as quickly as possible to his friend's house, and related what had happened, and it was then determined that the adventure should be finished; and he, his friend, a confidential black servant, and two others started, taking every precaution; as these snakes, when wounded, are perfectly furious. Two of the servants had clubs, and the third a bill-hook. They glided fast down the stream; the blood of the animal upon the reeds where the encounter had taken place, proved that it had received no slight wound. Opposite to these a passage had been formed wide enough for a man to enter. The arms were inspected, and they listened in vain for a sound, the negro with the bill-hook cleared the way, and after proceeding about thirty yards, he gave notice that they were close upon the animal. The head was invisible, but they could see that the monster was partly coiled up, and partly stretched out. Disturbed and irritated by their approach, it appeared about to assail them. They

caught a glimpse of its head, and the gentlemen fired; the creature fell, hissing and rolling itself into a variety of contortions, which made it still dangerous to approach it. Then Cæsar (the negro) motioning to them not to fire again, forced a way through the reeds on one side, and making a circuit, went before it, and hit it a violent blow, which completely stunned it; and a few repetitions of which gave them the victory. It was nearly forty feet in length, and of proportionate thickness. Others existed which were of far greater size, but none have of late years been found of such monstrous proportions.

A singular circumstance took place in the island of St. Vincent, inasmuch as it was the appearance of an immense serpent, discovered by some workmen, and which had not been known to exist in that, or any of the other West India islands, except Jamaica. It attacked the man who first saw it; and after some time was killed with three bullets in the head. It was a boa, measured more than thirteen feet, and was nearly three feet in circumference. It was supposed to have swum from the main land.

Mr. Byam relates, "that an Englishman and Indian, travelling together through a thick forest, heard a noise like the cry of a child in great pain. Pulling out their pistols, and tying up their horses, they proceeded to the spot, and there saw a boa crushing a young roebuck with short horns. It had wound itself twice round its prey, just behind the shoulders, one coil lying on the other to increase the weight, and its teeth fastened on the back of the deer's head. The tail was twisted twice round a young tree close by. It was too busy to observe the strangers; and the Englishman

wished to attack it, and save the deer; but the Indian walked off very gently, and made signs to him to follow. When they regained their horses, the Indian said it would have been madness to have fought with the irritated animal, and they went their way. This was seven in the morning, and they marked the spot by notching the trees. At four in the afternoon they again passed that way, and found the boa lying straight upon the ground; one of the horns of the roebuck sticking out of a corner of the mouth, and the other looking as if it would perforate the snake's neck; the tail was still coiled round the tree, and the middle of the body looked like a nine-gallon cask. A few blows of the hunting sword about the tail finished the monster; but when attacked, it tried to throw up the deer. It measured six paces."

There is a story related of a young gentleman who saw a parroquet enter a hole, and, thinking it was her nest, inserted his hand to take her young, or herself. He felt something very soft, but supposed it to be the unfledged birds. He, however, thought it would be prudent to ascertain the truth, and, putting in a stick, opened the hole so wide that he could see an enormous yellow boa, its mouth fringed with the feathers of the parroquet, which it had just devoured. It is scarcely necessary to say that he darted down the tree, and ran away as fast as possible.

"The largest snake known at Para, in South America, of late years, was twenty-two feet in length," says Mr. Edwardes. "He was captured upon Fernando's Island, near the city, by the negroes, with a lasso, as he lay upon the shore, basking in the sun. He had long infested the estate, carrying off, one time with

another, about forty pigs. Even after being captured, and dragged a long way to the house, he coiled his tail around a too curious pig, and would have made him the forty-first, had not the exertions of the blacks forced him to let go his hold."

PYTHONS (*Python*).

THESE may be called the boas of the old world; for we are more accustomed to hear of boas as a general term, than the snakes which bear the name at the head of this division.

In one instance, however, they have gone beyond the precincts of the ancient portion of the globe; for they are *the* large snakes of Australia. The Anaconda of Ceylon, about which such marvellous tales are told, and the hero of a highly-wrought story, written by M. G. Lewis, is the Python; and many of my readers may recollect a horror-striking picture of one by Daniel, which enveloped a poor Lascar, who had fallen asleep in a boat during the absence of his companions, and which has been engraved so often. They fortunately arrived in time to chop its tail, and, by breaking its spine, to rescue him before he was crushed to death.

Mr. Broderip says, and Mr. Green has confirmed it, "that the pythons and boas breathe freely, even when their throats are as closely filled as if they were stuffed serpents; and this is by means of muscles, which bring the breathing apparatus even beyond the lower jaw." A German writer gives an account of a python which swallowed a buffalo three times its own thickness. "It

laid wait for it by the edge of a pool, and seized it as it was going to drink. He heard the bones crack every time it gave a coil round it, and its struggles and bellowings were terrible; but the serpent did not let go its hold till the body was one shapeless mass; it then covered it with its slimy saliva, and, extending its body, began to swallow it at the smallest end."

Governor Abson, who resided thirty-seven years in North-western Africa, and chiefly in the English fort at Whidah, on the leeward coast, told Mr. M'Leod of some desperate struggles between these snakes and wild beasts, and also smaller cattle, in which the former were always victorious. A negro, belonging to Mr. Abson, had been seized round the thigh by one of the monsters; but the snake, when throwing itself round him, also included a tree, and as the compression was thus modified, he was able, with a large knife he had about him, to cut deep gashes in the neck and throat of the snake, which killed it, and freed himself. He, however, never recovered the use of the leg which had been squeezed, and also torn by its teeth.

The Tiger Python is more beautifully marked than any of the others; its back has a series of dark brown spots with a black margin, and of a form approaching to square.

A very remarkable fact has been recently discovered, which is, that the pythons hatch their eggs. One, sent over by that excellent naturalist and traveller, M. Kuhl, whose early death was a loss to science and to all who knew him, was placed in the Jardin des Plantes, and she collected her fifteen eggs together, coiled herself round them in the shape of a spiral cone, her head at the top, the eggs lying within. The temperature of

the snake was increased during the time, and she ate nothing, but drank greedily during fifty-six days. Directly they were born she left them to themselves, though she had never quitted them during the above period.

OLIGODONS.

THE technical name thus used includes the serpent which always accompanies the statues of Esculapius, and our common field-snake, which is perfectly harmless. It eats birds, mice, lizards, and frogs; the latter of which it draws into its mouth by the hind-legs; and as the jaws only act alternately, they swallow their prey gradually, the frog being alive the whole time, and remaining so, and squeaking after it has entered the body of the reptile. Should the snake, however, conveniently happen to yawn a few minutes after, which it often does after eating, the frog contrives to pop out again.

RATTLESNAKES (*Crotalus*).

WE now come to the most deadly serpents of the western world, which have several scaly pieces at the end of their tail, and so render it the shape of a funnel. These pieces are so loosely fitted into each other that they rattle when the serpent crawls or shakes its tail, which noise gives warning of their approach; and

is not meant as a friendly hint for man to get out of their way, as I have seen it asserted. A new scale is added to the rattle every time the serpent changes its skin. Rattlesnakes are much averse to make the first attack, which is fortunate, considering the powerful effect of their venom, and they may thus be easily avoided; they feed on birds, squirrels, and small animals, and the story of fascination is more seriously attributed to them than to others; but it arises, most probably, from the alarm which the victims are under at their approach, and thus become an easy prey. As to their power of attracting small creatures round them, this is attributed to the habit which many possess, and especially birds, of combining in numbers against a common enemy.

Captain Stedman tells us that a Mr. Francis Rowe, of Philadelphia, "was riding out one morning to visit a friend, when his horse refused to go forward, being terrified at a large rattlesnake which lay across the road. Mr. Rowe, being a believer in the supposed power of fascination produced by the snake, alighted to lead the animal round it; but during that time the snake having coiled itself up, sounded the rattle, and stared him so full in the face, and with such fire in its eyes, that the cold sweat broke out upon him; thus, whilst he durst neither retreat nor advance, he imagined himself gradually rivetted to the spot. However, reason remained, and resolution getting the better of alarm, he suddenly approached the reptile, and with one stroke of his cudgel knocked out its brains."

Sir Robert Schomburgh thus gives us an account of the symptoms of a man of his party in Guiana, who was bitten by one of these formidable creatures, and of

the means employed for his recovery. "He was brought in senseless; I ordered the wound, which was over the artery of the leg, to be sucked alternately by two powerful men, and well rubbed with salt and sweet oil, which were also given internally, and a ligature fixed tightly above the wound. When he recovered his speech he complained of acute pain, not only in the wounded part, but likewise in his side, under the arms, faintness of sight, and giddiness. His pulse was small and irregular; and I feared much for his life, when he fell into a new stupor, and threw up blood from his stomach. I then gave him a dose of castor oil and covered him with blankets, to produce perspiration, which after an hour was copiously effected, and his pains became less acute. He told us, while fishing at the brook the snake had bitten him in two places. He had once before met with a like misfortune, and said he had been saved by a cupful of human milk. This was accordingly procured for him. We did our best to promote perspiration, and continued to rub the wounded part with sweet oil. The leg was not much swollen; but his eyes were bloodshot, and it was evident that his sight was affected. His limbs remained rigid, and he complained much of giddiness till night. On the third morning he was so much better that I determined to leave him to the care of his relatives."

The following is an example of familiarity with a rattlesnake, which to some will appear almost incredible:—"M. Nalos, a Frenchman, while in North Carolina, attempted to procure some rattlesnakes for the purpose of making up a collection. Some of his observations and experiments induced him to believe in the possibility of taming this poisonous reptile. He

made a trial and completely succeeded. By what process he performed this was not known. He probably availed himself of the power which a control over the appetite of the animal gave him ; he spoke much himself of the charms of music. He kept two rattlesnakes. The male was four feet eight inches long, and had eight rattles to his tail, thus proving him to be nine years old, and he had been four years in his possession. The female was much smaller, had only five rattles, and had been with him for two years and nine months. So great was their docility, that he would take them up, after speaking some idle jargon to them, and, stroking them down their backs as if they were ropes, he would make them crawl upon his breast and face, caress and kiss him, coil round his neck, and while one of them was thus hanging round him he would take up the other and exhibit it."

This reminds me of a friend of my own, who kept some snakes in a box in his bed-room, and frequently, before he rose, took them into his bed to play with them. His daughter suffered them to form a necklace round her throat, and a girdle round her waist.

The American Journal of Science tells us of a young man who met with a large rattlesnake, and instead of killing it with his large cart-whip, as he could easily have done, amused himself by provoking it, and gently plying the whip round its body. The irritated reptile made repeated and vigorous leaps towards its tormentor, coming nearer to him at every effort ; and being teased more and more with the whip, at last threw itself into the air with such energy that when it descended it seemed scarcely to touch the ground, but, instantly rebounding, executed a succession of leaps so

rapid, and so great, that there was scarcely any intermission, and it appeared to fly. The young man betook himself to rapid flight; but his pursuer gained upon him, till, approaching a fence, he perceived he could not pass it before the fangs of the serpent would be in his flesh. As his only resource, he turned round, and by a fortunate throw of his lash, he wound it round the snake's body, arrested its progress, and killed it.

The rattlesnake is a constant guest in the holes or burrows of the little animals called prairie dogs (a rodent of the name of *Cynomys*). When alarmed, the four-footed creatures retreat into their habitations, and, when all is safe, come out again, followed by the rattlesnakes, which bask in the sun, and give an angry rattle if a puppy comes too near. Some say the rattlesnakes are enemies in disguise, and destroy many of their young; but of this there is no proof: the companionship is a certainty.

Mr. Byam's interesting travels afford the following anecdotes:—"The black snake of Central America is a deadly enemy to the rattlesnake; it is next in size to the boa, but much more agile; very vicious and ill-tempered, but not poisonous; it measures from nine to ten feet, and whenever they meet a pitched battle ensues, which, if tolerably equal in size, ends in favour of the black snake. It is not known whether they bite each other, but, at all events, the poison of the venomous serpent has no effect upon his adversary, although a rattlesnake bit itself one day, and died of the wound.

"A black and a rattlesnake were each descending opposite banks to drink at a stream a yard broad; the black fellow sprang over the stream, and they instantly

joined in conflict. They twined together, and the black snake had evidently most muscular power, so that in half an hour the rattlesnake was dead, and the black snake swallowed him, gliding into the thicket, double the size he was when he came out of it. It is generally believed in this country that the female rattlesnake dies when she has given birth to her young, which leave her alive." All snakes love water, rattlesnakes in particular, and they swim well.

Mr. Byam, when paying a visit to a friend, walked into the reception-room, where he found no one except a rattlesnake, which was playing up and down the back of a chair, and which, immediately on seeing a stranger, slid down to the floor, coiled himself up, his head and neck in the centre, and rattled furiously. Mr. Byam retreated, and shut the door after him; he, however, soon returned to the room with his friend, who told the snake to go into a corner. He then informed his guest that the creature had been given to him three years before that time, that he had extracted the fangs, and that it was as tame as a kitten.

The next day Mr. Byam found his friend with the snake in his lap, rattling furiously, and a pair of pincers, which he inserted into the animal's mouth, while a servant held it by the neck. After the operation was performed, he told Mr. Byam that the snake was accustomed to climb up his chair at breakfast-time, and that morning had been so importunate for milk, that he had given him a good rap on the head with a spoon, upon which he sprang to the floor, coiled himself up, rattled furiously, and shewed two projecting fangs. He was extracting these when Mr. Byam went in, not from where they had formerly existed, but higher up in the

upper jaw, as if designed to replace the first pair. They were, like them, moveable and hollow, and had the bag of poison at the root.

This snake was afterwards killed by a strange Indian, who, entering the room, and hearing it rattle, struck it, not knowing that it was tame, and could distinguish between friends and strangers.

Mr. Smith, in the *Philosophical Transactions* for 1848, says, that the poison of the rattlesnake is secreted in a greater quantity, and is more virulent in a high temperature than in cold; and that its secretion may be greatly increased by local irritation. When he was dissecting the poison apparatus of a large rattlesnake, which had been dead for some hours, and the head taken off immediately after death, the yellow poison continued to be secreted so fast as to be occasionally dried off with rag or sponge, and there could not have been less than six or eight drops.

“When the animal inflicts the wound,” continues Mr. Smith, “the pressure on the tooth forces a small drop of the poison through the tube; it passes through the external orifice, which is situated on the concave side of the curved tooth, and is in the form of a slit. The animal throws itself in the first place into a coil, more or less close, and the anterior part of the body is raised; the neck is bent somewhat abruptly backwards, and the head fixed almost horizontally. In an instant the head is, as it were, launched by a sudden effort towards the object of its anger, and the tooth struck into it, and withdrawn with the velocity of thought. . . . If a venomous serpent be made repeatedly to inflict wounds, without allowing sufficiently long intervals for it to recover its powers, each successive bite

becomes less and less effective. A gentleman who had a rattlesnake in a cage, put a rat in with it; it immediately struck the rat, which died in two minutes. Another rat was then introduced, which ran as far as it could from the snake, with cries of distress. In half an hour, during which time the snake shewed no hostility, on being irritated, it struck the rat, which died in twenty minutes. A third, and remarkably large rat, was then thrust into the cage, which shewed no terror of the snake, and the snake took no notice of the rat; the gentleman, after watching them for the whole evening, went to bed, and when he inspected the cage the next morning, the snake was dead, and the muscular part of its back eaten by the rat."

VIPERS (*Vipera*).

THIS numerous genus of venomous serpents contains many of the deadly snakes which we hear of in most parts of the world, such as Vipers, Adders, Asps, Cobra Capellos, Naias, Coral-snakes, King-snakes, etc., etc. Almost all have a malignant expression, but many have brilliant colours distributed in rings, bands, spots, etc.; their bites are most fatal in hot climates, but our own vipers or adders, which are small in size, although they cause much suffering, rarely kill.

In an old dispensatory which has come under my notice, I find the most amusing list of cures, which are to be effected by various preparations of the viper. The head hung about the neck, it is there said, "will cure quinsy." Their broth, or half of one eaten at

once, "clears the eyes, helps the palsy, and strengthens the nerves." "The ashes of their heads, mixed with a thick decoction of bitter lupins, and used as an ointment, 'helps dimness of eyes, and is an excellent thing against St. Anthony's fire; the whole viper in powder (except the head and gall) cures perfectly the gout,' etc. Viper wine, made by drowning live vipers in wine, cures leprosy," etc., etc.

In my childhood, a gentleman was ordered by his physician to take viper broth for extreme debility and delicacy; he was a man of great wit, and of a very sarcastic disposition, and one of his acquaintances observed that vipers ought to be cheap to him, as he could find his own venom.

The Cobra Capello, which for venom is the rattlesnake of the East Indies, is the serpent of the Indian jugglers. They are sometimes five or six feet long, and have the top of the head and neck covered with scales; and as the skin of the latter is very dilatable, the whole of the outer covering expands into a sort of hood, which is erected when the snake is angry; and as they hiss loudly, and their eyes sparkle, they look very beautiful. They are, however, much too dangerous to be contemplated with pleasure, for the next moment, perhaps, life is destroyed in the beholder. One species is marked at the back of the hood with lines resembling a pair of spectacles reversed, the centre of the rings being black. A very remarkable fondness for music distinguishes them, and the Indians, improving on this, gradually teach them to twist themselves about, in time to the measure which they are performing. They believe that the snake has a generous disposition, and will not

attack men unless provoked, and will never destroy them if they can help it. It is not always, however, that they themselves escape the deadly fangs of their pupils, and several anecdotes are on record of their destruction from over confidence, or undue irritation.

A friend of mine, when walking in his garden at Madras, seeing that a drain was stopped, enquired into the cause, and was told that it was supposed a large snake had obstructed it, and no one dared to try and send it away. The gentleman's coachman happened at that moment to be come for orders, and taking up a spade, dashed it into the drain; upon which a large cobra capello rushed out, and bit him in the arm. His master, much distressed, offered him the best European medical assistance; but the man declined it, saying he would rather trust to the plan pursued by his own countrymen. The native doctor was immediately consulted; who, with a sharp knife, cut three deep gashes across the arm, above the bite, and seared each with a red hot iron. The patient was ill for a long time after, but eventually recovered.

Captain Marryat told me, that he and a party were making an excursion into the woods in India, near where he was stationed, and in their progress they captured a cobra capello. He, wishing to make some experiments with it, would not suffer it to be killed, and had it tied up in a napkin, and hung to the bough of a tree, under which the party sat when they took their luncheon. The violent contortions of the snake caused the napkin to untie; and no words can do justice to the alarm and consternation which seized upon the party, when the cobra dropped in among them, its head raised, and its eyes flashing fire: the native servants took to their

heels; one or two of the gentlemen followed their example; but most of them did not give themselves time to get up; some scrambled away on their hands and knees, and others fairly rolled away as fast as their breath would allow. Fortunately no harm was done; the reptile, with equal haste, made the best of its way to the neighbouring jungle, and the little encampment, hastily *de-camped*, without further demolition of the champagne provided for the occasion.

In the Penny Magazine for April, 1833, I find a circumstantial account of a cobra, communicated by an eye-witness. "One morning, as I sat at breakfast," says this gentleman, "I heard a loud noise and shouting among my palankeen bearers. On enquiry, I learned that they had seen a large hooded snake, and were trying to kill it. I immediately went out, and saw the snake creeping up a very high green mound, whence it escaped into a hole, in an old wall of an ancient fortification; the men were armed with their sticks, which they always carry in their hands, and had attempted in vain to kill the reptile, which had eluded their pursuit, and in his hole had coiled himself up securely, whilst we could see his bright eyes shining. I had often desired to ascertain the truth of the report, as to the effect of music upon snakes. I therefore enquired for a snake-catcher. There was one about three miles off, and I accordingly sent for him, keeping a strict watch over the snake, which never attempted to escape, whilst we, his enemies, were in sight. About an hour elapsed, when my messengers returned, bringing a snake-catcher. This man wore no covering on his head, nor any on his person, excepting a small piece of cloth round his loins; he had in his hands two baskets, one containing tame

snakes, the other empty; these and his musical pipe were the only things he had with him. I made the snake-catcher leave his two baskets on the ground, at some distance, while he ascended the mound with his pipe alone. He began to play: at the sound of music the snake came gradually and slowly out of his hole. When he was entirely within reach, the snake-catcher seized him dexterously by the tail, and held him thus at arm's length, while the snake, enraged, darted his head in all directions, but in vain; thus suspended, he has not the power to round himself, so as to seize hold of his tormentor. He exhausted himself in vain exertions; when the snake-catcher descended the bank, dropped him into the empty basket, and closed the lid, he then began to play, and after a short time raising the lid of the basket, the snake darted about wildly, and attempted to escape; the lid was shut down again quickly, the music always playing. This was repeated two or three times; and, in a very short interval, the lid being again raised, the snake sat on his tail, opened his hood, and danced quite as quietly as the tame snakes in the other basket, nor did he again attempt to escape."

A cobra capello lay a whole night under a lady's pillow. She thought repeatedly during the night that she heard something move, and in the morning when she arose, on taking up her pillow, she saw the serpent, which raised its head, and looked at her without any malice, as if grateful for the warmth which it had enjoyed.

Cobras are sacred in Ceylon, and are so much revered, that when they are to be killed, a sort of compromise is made with the conscience, by putting

them into a bag made of matting, with some boiled rice, and dropping them into the water, to take their chance by floating down the stream. "A high caste snake," says Mr. Sirr, "is from six to seven feet long, and may be avoided; because it takes time to turn its hind part, and erect itself upon the coil before it darts."

Mr. Kohl tells us that "snakes are very abundant on the Russian steppes; and the inhabitants think, if one be killed, its relations will avenge its death." The *Coluber Trabalis* there is eighteen feet long.

Multitudes of histories of serpents, or, in common parlance, snakes, are distributed throughout books, private letters, and conversations, which fail to give the generic names. I therefore now throw them all together, without an attempt to place them in their proper series.

Two were told me by a military friend, as having occurred in his presence. He and several others were sitting after dinner, over their wine, when one of the party turned very pale, and said a snake has come in and twisted itself round my leg and that of the table. His companions hastily rose in order to kill it, but he said if you awake it, it will stick its fangs into me, and then I am a lost man. You had better all go out of the room, and I will sit quietly with my hookah till it awakes of itself, and then probably it will glide away without doing me any injury. After some expostulation his plan was adopted, and there he sat, with the most perfect stillness, for an hour, and an hour of much greater anxiety could scarcely have been passed; he was, however, rewarded by the snake quietly uncoiling itself and taking its departure.

The other story was that of an officer being about to put on his boots, and thrusting his foot into one of

them, felt something wriggling at the bottom ; with the greatest presence of mind he instantly stamped his foot upon the ground with the utmost violence. His chief difficulty was to know when to leave off this fatiguing exercise ; but at last his leg ached so much that he stopped, and finding all still, he drew off his boot, and there found a venomous serpent, which had crawled in and coiled itself up in the foot of the boot, but which he had killed by his exertions.

The old story of a snake with red crest and wattles, which coils itself up in hen-houses, only shewing these parts, and crowing like a cock, exists in Jamaica as well as in the East. The fact proved, is the existence of a crested snake ; but the report is that it is very thick ; four feet long, with a head like that of a Guinea fowl, of a dull, ashy grey, in colour, and large, well-defined spots on the back. The negroes insist on its crowing powers, and destruction of poultry, and that the gills hang down on the sides of the cheek.

A female half-caste, on whose veracity I could rely, told me that she was one day sitting in a room, forming part of the fortress of Succondee, on the Gold Coast, with her child in her lap, when she saw a snake with a red crest, and red gills hanging down, enter the room ; she could not tell whence it came, but, being horrified, her first impulse was to cover her child up with her dress, during which time her eyes were fixed on the snake ; she screamed for assistance, and the sentinel coming in, she pointed to the reptile ; he immediately put his bayonet upon the top of his musket, and made a thrust at it ; it rushed away and went behind some piece of furniture, which was moved, and nothing was to be seen but a small hole, through which it was

supposed to have disappeared. Every search was made for it, but it was never again found; and had she not been a person of great veracity, it would have been thought a fanciful exaggeration. She, however, never heard of a cockatrice, and was not likely to invent the story.

A gentleman in India had an aviary, which at one time was evidently infested by some destructive animal, for a bird was frequently missing in the most unaccountable manner; traps were set, supposing it might be a rat, and various contrivances were resorted to in order to catch the intruder, but in vain. At last, one night, the owner of the aviary sat up two hours beyond his usual time to finish a game of chess. The next morning a snake was found within the aviary, which had entered between the bars, and as the two hours made all the difference in its digestion, it had not been able to slip out again on account of the lump of bird's flesh within its body.

Mr. Pringle speaks at considerable length of the snakes which he saw in Southern Africa; they have there a different species of the cobra capello, he says, which makes such fierce attacks, that it will spring upon a man on horseback.

The Puff-adder is heavy, sluggish, and thick in its proportions, and seldom attacks mankind; it however is a highly dangerous snake. A Captain Harding (a friend of Mr. Pringle), when on a military expedition, slept, wrapt in his cloak, under a tree. The first object which he perceived at day-break, on raising his head from his saddle, which formed his pillow, was the tail of an enormous puff-adder lying across his breast, the head muffled under the folds of his cloak, close to his body.

If he disturbed it rudely, there was great danger of being bitten ; he therefore softly seized it by the tail, pulled it out with a sudden jerk, threw it violently to a distance, and so escaped injury. The same officer's wife was sleeping in a camp-bed with her infant, in a little clay-built cabin, when, looking up one morning, she perceived a snake making its way through the thatch, almost directly above her couch, swinging its body to and fro, with its little malignant eyes gleaming upon her face ; she screamed in terror, and covered up her child, in apprehension of the reptile's immediate descent. Before the servant had answered her call, it had wriggled its way through, and fallen into the room, but fortunately without any attempt to injure the lady or her child, and it was destroyed.

Another lady, going into her nursery one night, found a puff-adder, standing erect on its tail, by the side of the cradle in which her child was sleeping ; she screamed in horror, but durst not approach, for fear that the reptile, which began to hiss and inflate its jaws, as it usually does when irritated, should spring upon the child. Fortunately her husband was at hand, and, hearing her outcry, hastened to her, and destroyed the serpent with a single blow.

“ I sent a servant girl,” continues Mr. Pringle, “ a bare-legged Hottentot, to bring me some article from a neighbouring hut. On returning, she cried :—‘ Oh ! what shall I do ? A snake has twisted itself round my legs, and if I open the door, he will come in.’ ‘ Never mind,’ replied I, ‘ open the door, and let him come in if he dare.’ She obeyed, and in glided the snake, without having harmed the poor girl. I stood prepared, and smote him dead.”

The following singular remedy is much used against the bites of serpents by the Hottentots and the colonists, who have borrowed it from them :—A domestic fowl is procured, when any one has been bitten, and applied to the part; but it is better to relate an occurrence in proof of its efficacy. “The youngest child of a Scotch farmer, at Algoa Bay, about three years of age, playing in the garden, stumbled on a very large puff-adder, and was bitten by it. He ran to his mother, crying out that a big worm had bitten him; and she, according to the instructions of the Hottentots, cut open the breast of a fowl, and applied it to the part. In a few minutes the bird died. A second was applied, and died also. A third was so much affected by the venom as to appear giddy and stupid, but survived the operation. The child was then made to drink largely of sweet milk; the limb was placed in a running stream, and afterwards smeared over with tar, which gradually removed the inflammation, and the livid hue which had begun to spread over it. In a few days the child perfectly recovered, without any other remedy having been applied.”

The natives of Southern Africa describe what they call a Spiriting Snake, which they declare spirts its venom in the face of its assailants, and, if it enter the eyes, immediate blindness ensues, from which the person who is injured never recovers. The Hottentots always cut off the head of the snakes which they kill, and bury it in the ground: for, they say, if any one should incautiously tread on its fangs, weeks, or even months after, the deadly virus still retaining its energy, might cause injury.

A Hottentot corporal, on rising from his couch of

dry grass one morning, felt some living creature move about his thigh, inside his leathern trousers. Thinking it was only a harmless lizard, he laughed, and shook his leg to dislodge it, and when a black, wriggling snake, came tumbling down upon his naked ancles, poor Spandilly leaped high in the air, uttering a cry of horror; and, although unhurt, could scarcely be persuaded that he had not received any injury.

“Two travellers,” says Mr. Byam, “passed a hillock in a marsh, and heard some groans proceeding from some one on the top of it; he earnestly beckoned them to approach, but they at first hesitated, thinking it might be a contrivance to entice them into danger. They, however, went near, and the man told them that, while he was asleep, a snake had crept up his loose drawers, and was then lying on his stomach, and from what he had seen of it, he believed it to be a Coral-snake, one of the deadliest of the western serpents. He had nothing on but those drawers and a short cloak. The travellers saw the form of the snake under the drawers; they dismounted, put on thick gloves, took a pair of scissors, cut very carefully through the drawers till they came to the head of the animal, still fast asleep, and then one of them seized it by the neck, and so released the poor man. It was nearly three feet long, as thick as a walking-stick, coral-red in colour, with yellow rings. The poor man said he had passed two or three hours in that dangerous situation, which appeared as long as weeks, and had called to two or three passers-by, who had all avoided him, from the supposition that it was the decoy of a marauding Indian. He was completely unmanned, and his strength was prostrated by his apprehensions.”

An acquaintance of mine, who was some time in Honduras, on awaking one morning, saw a small poisonous snake coiled up on the top of the mosquito covering of his bed, and while he was considering the chances of its falling through, and biting him, and the propriety of getting up and destroying it, a much larger snake crawled up the bed-post, and seizing the smaller one, dragged it down into its own stomach.

The history of a valiant kitten may amuse my readers : “ She was only four months old,” says Mr. Byam, “ and followed her master, the British Vice-Consul at a port in the Pacific, to the custom-house, where the removal of some dye-wood brought a Coral-snake to light. A battle ensued, and every time the snake darted at the kitten, she gave it a sharp blow right or left, knocked it away, and at last stunned it. Still she kept hammering away on the head and neck till it was quite dead; the smallest scratch from its fangs must have killed her, but she was too quick for it, and beat her enemy by the most skilful sparring.”

All snakes cast their skins, and these are often found, and always inverted, just as they have crawled out of them; in tropical countries betraying a vicinity which, if known, would have caused the greatest alarm. I possess one taken from a corner of the drawing-room of a friend in Prince of Wales’s Island.

Professor Bell says that he had a snake which knew him perfectly well, crawled under the sleeve of his coat, and drank milk from his hand every morning, of his own accord flying always from strangers, and hissing at them if they meddled with him.

Mr. Jesse relates that he “ once saw two snakes seize upon the same frog, one taking a hind-leg, and

the other the opposite fore-leg. At length their jaws met, and one slightly bit the other; this was retaliated without any hostile feeling, and at last the most powerful of the two shook the other from side to side with great violence. Then, after a little rest, the other snake did the same thing, till the one which had the weakest hold was effectually shaken off, and the conqueror swallowed the spoil."

The story which I now give, on M. Kohl's authority, rivals that of the Dragon of Rhodes :—"Some villagers had for a long time observed wide tracks in corn-fields, as if a sack of flour had been dragged through them. A young foal was found half dead, and it was supposed that a large snake had done the mischief. A few days after, four or five carts came rushing into the village, horses and drivers all frightened by a large snake. About a hundred young men went out, armed with guns and clubs, but could not find it. The next day the snake frightened some shepherds, who fled with their flocks; and it killed a horse before their faces. At last they saw and fired at it, but, although wounded, it disappeared among the reeds of the Dneister."

Rarely, if ever, does an all-beneficent Creator send into the world a destroying evil without an accompanying antidote; but at present we are not in possession of any certain cure for the bite of these deadly serpents. Warm olive oil is the remedy which has been found most efficacious against the poison of our own vipers, and has rarely been known to fail. Much, of course, depends on the state of the patient at the time, and also upon the mental impression made by the accident. The medicinal virtues of the flesh of the viper are now thought to be idle tales.

In India, what is called the Tanjore pill is celebrated as a remedy ; the most active ingredient of which is arsenic. Dr. Russell, however, says that its action is very doubtful, as well as that of cauteries, and alkaline and acid caustics. A good effect has been produced by Madeira wine and eau de luce ; but there is not much confidence to be placed in any of these remedies.

The Ichneumon, also called Neulah, Benjee, and Mungoos, is known in India as a rapacious little creature, doing an infinity of mischief amongst poultry ; but which deserves to be tolerated from its devouring so many of the eggs of crocodiles, and for killing so many rats and snakes. It was embalmed and placed in the tombs in Egypt ; and it is declared by the natives of India to know of a remedy against the bites of serpents, which it digs out of the ground. Whether it be thus or not, it generally overcomes the snake with which it has a contest.

Mr. Calder Campbell gives the ensuing account of an adventure of an Indian officer, which fully establishes the power of the ichneumon. From some accidental circumstance he was alone on foot, and wandering about a desolate part of the country at night ; when, overcome with fatigue, he threw himself down and went to sleep. He slept soundly, but he awoke full of horror ; he felt that his lower limbs were enveloped in a living chain, preventing all movement, and when fully conscious he perceived that a large serpent had bound him in its coils up to his knees. He gave himself up for lost, but remained motionless, one hand under his head, whence he dared not remove it for fear of awaking the snake.

Unexpectedly he heard a purring sound behind him,

which created new terror ; it was followed by two smart taps upon the ground, which put the snake on the alert, and it crawled towards his breast. When half mad with fright, something leaped upon his shoulder, then on to the reptile. There was a shrill cry from the new assailant, a loud, appalling hiss from the serpent. For an instant he could feel them wrestling on his body ; in the next they were beside him on the turf ; in another a few paces off, struggling, twisting round each other, fighting furiously.

He started up, and watched that singular combat ; he saw them stand aloof for a moment ; the deep, venomous fascination of the snaky glance powerless against the keen, quick, restless orbs of its opponent. He saw this duel of the eye exchange once more for closer conflict, he saw that the mongoos was bitten, that it darted away, doubtless in search of that still unknown plant, whose juices are an alleged antidote against snake bites ; that it returned with fresh vigour to the attack. And then—glad sight ! he beheld the snake, maimed from head to tail, fall lifeless from its hitherto demi-erect position, with a baffled hiss ; while the wonderful victor indulged itself upon the body of its antagonist, danced and bounded about, purring and spitting like an enraged cat.

Whatever the plant may be to which allusion is here made, it is proof of some sort of an antidote existing in India. There seems, however, to be more certain information concerning the guaco, or snake-plant of South America, and I abridge a description of it from 413 of Chambers's *Edinburgh Journal*. "The guaco is a species of willow, the leaves are dark green, mixed with violet, smooth underneath, but rough and downy



THE SNAKE AND ICHNEUMON.

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above. The flowers are yellow, and grow in clusters of four. It flourishes best in the shade of other trees, by the side of streams, and is a native of the hottest parts. A decoction of its leaves forms the antidote, and is taken, either as a preventive or cure; in the former case, enabling him who has drunk of it to handle the most dangerous serpents with impunity. For a long time it remained unknown, except to a few of the native inhabitants of South America. However, its effects are now generally made public in the country where it grows, and have created much astonishment."

"Being at Margarita," says a gentleman, "some time ago, I heard of this plant and its virtues, and was desirous of witnessing them. This was easily effected, as there was a skilful snake doctor there, and I enjoyed the acquaintance of his master. The negro entered my room, carrying in his hands a pair of coral-snakes, and he turned and twisted them over his naked wrists and arms with the greatest confidence. I at first suspected that their fangs had been withdrawn; but I was mistaken, and saw them in their mouths. They did not attempt to use them, or exhibit any anger, although the negro handled them roughly. On the contrary, they appeared to be afraid of him.

"Determined to assure myself beyond a shadow of a doubt, I ordered a large mastiff to be placed within their reach. He was frightened, but, being tied up, could not retreat, and, after a short time, one of the serpents struck and bit him in the back of the neck. He was then let loose, but did not at first seem to notice the wound he had received. In two or three minutes, however, he began to limp and howl most fearfully. In five minutes more he fell, and struggled

in violent convulsions. Blood and viscous matter gushed from his mouth and nostrils, and in a quarter of an hour he was dead.

“I offered a good sum of money to possess the secret, and the negro, promising to meet my wishes, took his departure. On the following day he returned, bringing with him a handful of heart-shaped leaves, which I recognised as those of the *bejuco de guaco*, or snake-plant. These he placed in a bowl, having first crushed them between two stones. He next poured a little water into the vessel. In a few minutes maceration took place, and the tea was ready. I swallowed two small spoonfuls of it; the negro then made three incisions in each of my hands, at the forking of my fingers, and three similar ones on each foot, between the toes. Through these he inoculated me with the extract of the guaco. He next punctured my breast, both on the right and left side, and performed a similar inoculation. I was now ready for the snakes, several of which, both of the coral and cascabel species, the negro had brought with him.

“With all my wish to become a snake charmer, I must confess that at sight of the hideous reptiles I felt my courage oozing through my nails. The negro, however, continued to assure me; and as I took great pains to convince him that my death would cost him his life, and I saw that he still entreated me to go a-head, I determined to run the risk. With a somewhat shaky hand, I took up one of the corals, and passed it delicately through my fingers. All right. The animal showed no disposition to bite, but twisted itself through my hands, apparently cowering and frightened. I soon grew bolder, and took up another

and another, until I had three of the reptiles in my grasp at one time. I then took one of the cascabel species, which was more lively, but did not shew any symptoms of irritation. After I had handled the reptile for some minutes, I was holding it near the middle, when, to my horror, I saw it suddenly elevate its head, and strike at my left arm. I felt that I was bitten, and, flinging the snake from me, I turned to my companion with a shudder of despair. The negro, who with his arms folded, had stood all the while calmly looking on, now answered my quick and terrified inquiries with repeated assurances that there was no danger whatever, and that nothing serious would result from the bite. I was more comforted by the manner of my companion than by his words; but, to make assurance doubly sure, I took a fresh sip of the guaco tea, and tremblingly waited the result. A slight inflammatory swelling soon appeared about the orifice of the wound, but at the expiration of a few hours I was all right again.

“On many occasions afterwards I repeated the experiment of handling serpents I had myself taken in the woods, and some of them of the most poisonous species. On these occasions I adopted no further precaution than to swallow a dose of the guaco sap, and even chewing the leaves of the plant itself was sufficient. This precaution is also taken by those (such as hunters and wood choppers) whose calling carries them into the thick jungles of the southern forest, where dangerous reptiles abound.”

The tradition of the Indians concerning its discovery is interesting. They say that in the *tierras calientes* (hot lands), there is a bird of the kite species, which

they call *gavilan*, whose food consists principally of serpents. When in search of its victims, this bird utters a loud but monotonous note, which sounds like the word *gua-co*, slowly pronounced. The Indians allege that this note is for the purpose of calling to it the snakes, over whom it possesses a mysterious power, that summons them forth from their hiding-places. This is, of course, pure superstition; but what follows may, nevertheless, be true. They relate that, before making its attack upon the serpent, the bird always eats the leaves of the *bejuco de guaco*. This having been observed, the antidotal powers of the plant were inferred, and confirmed by experiment.

Why this plant is not more known; why it has not been transplanted to other snake countries; why no preparations have been made of it, and their efficacy tried (and I do believe none of these things have been done), it would be difficult to say.

At some seasons of the year snakes are apt to congregate together in numbers, twisting and coiling about each other. I myself have seen this in a lane in Essex, which was much infested with them. I was too frightened even to try to ascertain how many there were, but it looked a formidable mass. The celebrated De Humboldt thus describes such a conglomeration, as he saw it in his travels. "In the savannahs of Essequibo, in Guiana, I saw a most wonderful, most terrible spectacle. We were ten men on horseback, two of whom took the lead, in order to sound the passages, whilst I preferred to skirt the green forests. One of the black men who formed the vanguard returned at full gallop, and said to me, 'Come here, Sir, and see serpents in a pile.' He pointed out to me

something elevated in the middle of the savannah, which appeared like a pile of arms. One of my companions then said, 'This must be one of those assemblages of serpents which heap themselves on each other after a violent tempest. I have heard of such, but never seen any; let us be cautious, and not go too near.' When we were within twenty paces of it, the terror of our horses prevented our nearer approach; to which, however, none of us were inclined. Suddenly the pyramidal mass became agitated; frightful hissings issued from it; thousands of serpents rolled spirally on each other, shot their hideous heads out of the circle, presenting their fiery eyes to us. I own I was one of the first to draw back; but when I saw this formidable phalanx remain at its post, and appear to be more disposed for defence than offence, I rode round it, in order to view its mode of offering battle. I then sought what could be the design of this numerous assemblage; and I concluded that this species of serpent (boa) dreaded some colossal enemy, which might be a great serpent or cayman, and they unite themselves, after having seen this enemy, in order to attack or resist him in a mass."

In the Pacific, in the Indian Archipelago, and Australian seas, numbers of snakes are found in the sea, some of which are of immense thickness, and all of which are supposed to be venomous. Sir Edward Belcher and Dr. Darwin both speak of them in their travels. Their tail and the posterior part of the body are flattened, and their nostrils are closed by a scale. They are mostly yellow in colour, varying to green, blue or white; and have blackish rings and lozenge-shaped spots. There are various assertions concerning

their power of coming on land, and their habit of doing so ; but they cannot live long out of salt water. Experiments on the living snakes are difficult ; for they are held in such utter abhorrence that the native fisher men will not catch them. Their principal food is crustacea and fishes, and they are, in their turn, eaten by sharks. They sleep so soundly that a large vessel will pass over them without causing them to awake. They dive to great depths, and keep below for a long interval.

Naked serpents are those whose scales are hidden between the wrinkles of the skin, thus appearing as if they had not any. They are singular in their appearance, and one species lives underground, in the marshes of Brazil, and another is quite blind.

CHELONIANS (*Testudinata*).

SOME of these reptiles live in water, and others on land ; the former are able to live in and on both. They are all distinguished by having an upper and an under shield or covering, formed of different pieces of bone for a frame work, and covered with thick horny scales, or a leathery skin. The only parts seen beyond the shell are the head, neck, tail, and four feet, and most of them are able to retract all these within their case. They are so tenacious of life that they will live for weeks without a head, and pass even years without eating.

TORTOISES (*Testudo*).

THESE are among the Chelonians which live both on land and in water; they are good eating, and highly nutritious; some are not bigger than a snuff box, others enormous, and they are generally black, brown and yellow in colour. They are very long lived, attaining even three hundred years; generally feed on vegetables, and in climates where there are some months of cold weather they burrow under ground during that period. They are of immense size at the Galapagos Islands, requiring from six to eight men to turn them, and yielding 200 lbs. of meat. The old males are the largest, and are easily distinguished from the females by having a longer tail. Where water is scarce they feed much on the cactus, which is very succulent. In the higher and damper regions of the same islands they feed on a pale green lichen, and on an acid berry. They drink large quantities of water, and delight to wallow in the mud. "The larger islands," continues Mr. Darwin, "alone possess springs, and these are always situated in the central parts, at a considerable elevation. The Tortoises, therefore, which frequent the lower districts, when thirsty, are obliged to travel a long distance. Hence, broad and well beaten paths radiate off in every direction from the wells, even down to the sea coast; and the Spaniards, by following them up, first discovered the watering places. When I landed at Chatham Island, I could not imagine what animal travelled so methodically along the well chosen tracts. Near the springs it was a curious spectacle to behold

many of these great monsters; one set eagerly traveling onwards with outstretched necks, and another set returning after having drunk their fill. When the tortoise arrives at the spring, quite regardless of any spectator, it buries its head in the water above the eyes, and greedily swallows great mouthfuls, at the rate of ten in a minute. The inhabitants said that each animal stayed three or four days in the neighbourhood of the water, and then returned to the lower country; but they differed in their accounts respecting the frequency of their visits, which are probably regulated by the nature of the food which they have consumed." They have a bladder which serves as a reservoir for water, and when the natives are suffering much from thirst, they kill this animal and drink the contents of the bladder. When moving towards any definite point they travel night and day, and the natives, who have watched them, consider that they can move a distance of about eight miles in two or three days. One watched by Mr. Darwin went at the rate of four miles a day, allowing a little time for eating on the road.

The young tortoises, when hatched, fall a prey in great numbers to the buzzard; the old ones seem to die from accidents; such as falling down precipices. The inhabitants believe that they are absolutely deaf, and they certainly do not hear a person walking close behind them. "I was always amused," continues Mr. Darwin, "when overtaking one of these great monsters, as it was quietly pacing along, to see how suddenly, the instant I passed, it would draw in its head and legs, and uttering a deep hiss fall to the ground with a heavy sound, as if struck dead. I frequently got on their backs, and then, upon giving a few raps on the hinder

part of their shell, they would rise up and walk away; but I found it very difficult to keep my balance. The flesh of this animal is largely employed, both fresh and salted, and a beautifully clear oil is prepared from the fat. When a tortoise is caught, the person makes a slit in the skin near its tail, so as to see inside its body, whether the fat under the dorsal plate be thick. If not, the animal is liberated, and it is said soon to recover from this strange operation. It is not sufficient to turn them like turtle in order to secure them, for they are often able to regain their position. A very excellent soap is manufactured from the oil of the tortoise and turtle.

I heard a story of a tortoise the other day, which very much excited the curiosity of a monkey, also a pet in a family; he could not understand the animal, and was always trying to insert his fingers between the two shells, for which he every now and then got a bite. At last he discovered that when the tortoise was turned on its back, it was almost powerless, and from that moment the monkey delighted in laying the poor tortoise upside down; a dozen times a day at least, if he could get at it, he performed the operation, much to the torment of the unfortunate tortoise.

One day, the owner of the two animals was visited by a friend, who said he was come to luncheon; and added, "I believe I come at a lucky time, for there is such a savoury smell in the house." The master was well-pleased to order luncheon, but denied the savoury mess, saying, "I fear you are mistaken, for my cook is gone out for a holiday." The rich smell, however, became so strong, that search was made as to the reason for it, and the poor tortoise was found, roasted alive upon the

hot-plate in the kitchen; doubtless put there by the monkey in the absence of the cook; for on being shewn the mischief which he had done, he looked perfectly conscious of his misdemeanour.

America, according to MM. Duméril and Bibron, produces more Marsh Tortoises than all the rest of the world put together. They are less slothful on land than the above tortoises, and feed on small aquatic animals; and if larger creatures are drowned in the waters which they frequent, they do not hesitate to eat them.

The Soft Tortoises (*Trionyx*) are those whose bony frame-work is only covered by a soft skin; they have a horny beak, fleshy legs outside, and the muzzle is lengthened into a short trunk. They live in large rivers and lakes, are very voracious, eat flesh, and especially delight in devouring young crocodiles. They are reckoned good eating; and, according to MM. Duméril and Bibron, are caught with a line and hook, baited with a living prey, for they are said never to touch anything which is dead or immoveable; they, however, will eat crocodile's eggs in the African and Indian rivers. They give very sharp bites with their beaks, and take a piece out, so as to make themselves much dreaded, and, when landed, it is desirable to cut off their heads directly.

TURTLES (*Chelone*).

THESE are by far the most useful of this race of reptiles, for they yield delicious food; and some species afford the shell, so much prized as an article of ornamental

luxury. They chiefly eat sea-weed, particularly the zostera, or sea-grass, which grows in the depths of tropical oceans. It is said that they will clamber up lone and desolate rocks and islands, in search of plants which they like to eat. "The logger-head turtles," says Mr. Gosse, "eat cuttle-fishes and other mollusca, and their powerful jaws will crush a great strombus or cassis (conch-shell) as a man would a nut." M. Audubon says, "that some shoot through the water like an arrow." They never leave the sea except to lay their eggs, and then they shuffle along, and if once turned on their backs they never can get right again. Their eggs are excellent eating, and their flesh is also delicious. I was much surprised at the wholesomeness of the repast presented to me at the Isles de Los, where one was caught as she was going ashore to deposit her eggs. These said eggs were served the next morning for breakfast, in the upper shield, by way of a dish, and our excellent captain ordered the flesh to be given to the ship's company, as well as cooked for those in his own cabin; there we could not command the wine and rich condiments used in England, and their absence was to our advantage.

Turtles lay from two to three hundred eggs, at intervals of two or three weeks, a hundred at a time, and then leave them to the influence of the sun, choosing lonely islands and unfrequented shores for the places of deposit. When the young turtles come out, they proceed to the sea, and many are devoured before they reach it by the birds of prey, who have been watching for them; and when they get to their own element they are not safe, for then the larger kinds of fishes and crocodiles are waiting to swallow them.

The Green Turtle is reckoned the best eating; and instances are recorded of its capture on the French and English coasts; but one of the most abundant places of resort for them lies much in the way of English shipping—the Island of Ascension; that rugged, desolate spot of volcanic formation, where ponds have been artificially made, and where they have been kept for two or three years without eating. When they are to be killed, they are slung upon a sort of gallows, says Sir J. E. Alexander, and their throats are cut. No merchant's ships' crews are now allowed to turn them, as it is called, the right being vested solely in the government, who charge two pounds ten shillings for each. Great care must be taken not to receive a blow from their flippers, which possess immense strength.

In the Bahamas they are speared, and as they swim off in the manner of pike, the sport is something like trolling; instead of being stationary, however, the sportsmen follow the line as it runs out, they being in light canoes, and secure their victim when he is exhausted.

Mr. Darwin thus describes the capture of the green turtle at Keeling Islands: "I accompanied Captain Fitzroy to an island at the head of the lagoon; the channel was exceedingly intricate, winding through fields of delicately-branched corals. We saw several turtles, and two boats' crews were there employed in catching them. The method is rather curious; the water is so clear and shallow that, although at first a turtle quickly dives out of sight, yet in a canoe or boat under sail, the pursuers, after no long chase, come up to it. A man, standing nearly in the bows, at this

moment dashes through the water upon the turtle's back, then, clinging with both hands to the shell of the neck, he is carried away, till the animal becomes exhausted, and is secured. It was quite an interesting sight to see the two boats thus doubling about, and the men dashing into the water, trying to seize their prey."

A still more curious method of catching them is practised on the shores of China and Mosambique, for there the captors are living fishes. Mr. Salt tells us that the remora, or sucking fishes, are trained for the purpose. They are taken in tubs to the place where the turtles lie basking on the surface of the water, the tail of each being furnished with a ring, to which is attached a long, fine, but strong cord. The fishermen slip one of these overboard, which, soon perceiving the turtle, fixes itself so firmly upon it, that both can be drawn together to the boat, and the fish is easily detached by pushing its head forward from behind.

The flippers, or paddles, of the Hawksbill Turtle are much longer than those of other species, so that when they are turned on their backs they can get right again. Its flesh is not good to eat, though its eggs are much esteemed; but it is this species which supplies the most beautiful tortoise-shell, and the best is found in the Indian Archipelago, the Spice Islands, and on the coasts of New Guinea.

The process by which the beautiful covering of these creatures is made subservient to the numerous uses to which it is put, is entirely dependent on heat; this separates the plates from each other, and the layers which form the plates; renders them ductile and capable of receiving any impression, either by carving or moulding, and even of being joined by a solder made

of the powdered shell. The filings and fragments are placed in metallic moulds, and by strong pressure, under the action of boiling water, they are re-formed into plates of any thickness required, so that not a particle need be lost.

A hawksbill turtle was once caught in the Severn, and kept in a gentleman's pond till the ensuing winter.

The Leathery Turtles (*Sphargis*) are powerful and voracious animals, whose outer covering is like leather; they are so large that one has been known to weigh sixteen hundred pounds; and when wounded, or taken in a net, they bellow so loudly that they may be heard at the distance of a mile. Their flesh is not reckoned wholesome.

BATRACHIANS.

I AM now come to that family of reptiles in which those extraordinary transformations take place, which change them from fish-like animals, only able to live in water, into those which are amphibious, and inhabit both land and water. Their shape undergoes a complete metamorphosis, their breathing organs, called branchiæ, or gills, turn into regular lungs, and in warm countries this takes place in a few days, whereas, in Great Britain, and climates of the same temperature, the process extends over a month. Some few are born when they leave their mother, but others remain in the egg for a time; the outer covering of which is so transparent, that we can see the gradual development of the animal within.

The young of these reptiles, called Tadpoles, have a long fleshy tail, a small horny beak, fringes on the sides of the neck, no limbs, and breathe by gills. These little tufts are gradually drawn into the body as the animals grow, and they become air-breathing creatures. Their heads are very large, and their quantity of brain extremely small. They are found in almost every part of the earth, but abound most in America.

FROGS (*Rana*).

THESE reptiles are so well known that they scarcely need any description here; and I shall only mention that they have some small teeth in their upper jaw, many have the palate set with prickles, and that their legs are extremely like those of men, so that if we watch a frog swimming, we shall see the manner in which a human being would perform that exercise. The power vested in the legs of frogs is, however, particularly great, for they can take leaps on the ground fifty times longer than their own body. They, as well as toads, have soft, fleshy tongues, furnished with a glutinous substance, which makes their prey adhere to them; and they dart out their tongues, and carry the insects to the back of their mouths to be swallowed, with a rapidity which is almost surprising. When tadpoles, they chiefly eat decayed vegetable matter which they find in the water, but when full grown, they devour insects, slugs, etc.

The cry of frogs is one of the most wearying, croaking sounds possible, and we have only to place ourselves

near some dirty pool in the spring, to convince ourselves of their deep, guttural voices ; but bad as this is, it is music compared to the long shrieks, shrill whistlings, snorings, and bellowings of those in other parts of the world.

In our own country, and those of the same temperature, they and toads huddle together by hundreds in the mud at the bottom of ponds when winter approaches, and only awake again when spring returns.

Frogs breathe not only by swallowing air, but by means of their skin, and some cruel experiments, such as cutting out their lungs, have been made to prove this. In order to effect it, the skin must be constantly kept moist ; and within them the bountiful hand of Providence has placed a bag, or reservoir, containing a quantity of water, which is sucked up by the skin and lodged there, and kept in store for the animal when placed in dry situations.

Professor Bell assures us that frogs may be so far tamed as to know the person who feeds them, and their use in a garden, from the immense number of slugs which they devour, is everywhere acknowledged.

Captain Stedman saw a snake, which appeared to him to be the size of a large kitchen poker, swallow a frog the size of a man's fist ; the lengthy reptile had "twisted its tail round a tough limb of mangrove, while the frog had laid hold of a twig with the claws of his hinder legs, as with hands. In this position were they contending, the one for life, the other for his dinner, forming one straight line between the two branches, and thus I beheld them," says he, "for some time apparently stationary, and without a struggle. Still I was not without hope that the poor frog might

extricate himself by his exertions ; but the reverse was the case, for the jaws of the snake gradually relaxing, and by their elasticity forming an incredible orifice, the body and fore legs of the frog by little and little disappeared, till, finally, nothing more was seen than the hinder feet and claws, which were at last disengaged from the twig, and the poor creature was swallowed whole by suction down the throat of his formidable adversary, whence he was drawn some inches further down the alimentary canal, and at last stuck, forming a knob or knot at least six times as thick as the snake, whose jaws and throat immediately contracted, and re-assumed their former shape. The snake being out of our reach, we could not kill him as we wished to do. Thus we left him, continuing in the same attitude without moving, and twisted round the branch."

Enough has been said in these pages to prove, that snakes are the direst enemies of frogs ; and frogs are equally so to the slugs ; and thus is the equilibrium of created beings established in all instances. Any preponderance is injurious, especially to man, and in his vicinity we more especially see the harmonious proportions kept up ; he himself devouring or destroying those animals which would, by their too great numbers, be of serious injury to his welfare.

TREE-FROGS (*Hyla*).

THE brightness of the eye and the colours of these frogs make them as pleasing to the sight as these reptiles can be. They live among foliage, hopping about like

birds, and their feet are provided with suckers or cushions, such as I have already noticed in the gecko, which enable them to cling to leaves, and inverted surfaces. These cushions, like the whole surface of the body, are, moreover, imbued with a glutinous secretion, but naturalists think, without this fluid they would still be able to adhere to the above substances. Like many other reptiles, they are able to change their colour, when concealment is to be effected by it.

Mr. Gosse's description of them is the best I have ever read; and I therefore give an abridgment of it to my own readers. "They are very numerous in the damp woods of tropical America, and reside by day in the tufts of those parasitical plants, which form reservoirs for rain-water. The under-surface of their bodies is very different to that of the terrestrial species; for the skin, instead of being smooth, is covered with granular glands, pierced by numerous pores, through which the dew or rain, spread on the surface of the leaves, is rapidly absorbed into the system, and reserved to supply the moisture needful for cutaneous respiration. The males make the woods resound throughout the night with their various cries, and, mingled with the shrill chirping of insects, quite banish sleep from the stranger's eyes. . . . The form of their tongue varies; in some it is forked; in others, it is heart-shaped; and in others, again, long, and ribbon-like."

The European Tree-Frogs are green, yellow, and violet, and live in the southern parts of the Continent, and the same inhabit North Africa; and their loud, hoarse croak may be heard at a great distance. Directly one begins, all within hearing join in chorus, baying like a pack of hounds, during which time the skin of

their throats is so inflated, as to make it nearly as large as the head.

Dr. Townson had two tame tree-frogs, which he named Damon and Musidora, and placed a bowl of water in the window where they lived, which they rarely omitted to visit every evening. In half an hour, passed by one of them in the water, it had absorbed half its weight. They will eject water to a considerable distance; and they, as well as toads, suffer their prey to remain untouched before them, as long as it may be still, but if it make the slightest motion, they instantly seize it. Dr. Townson made a provision of flies for Musidora, to serve her during the winter, but she would not take them unless he moved them with his breath. When flies were scarce, he cut up some tortoise-flesh into small pieces, and moved them in the same manner; but although she, at the first, seized them, she rejected them from her tongue.

Dr. Townson, who lived at Göttingen, made his frogs the guardians of the dessert, against the inroads of flies; he has seen them eat humble bees, after a contest between the parties, the stings and hairy roughness of the latter being repulsive; but when they were sufficiently covered with the viscid matter from the tongues of the frogs, they easily swallowed them.

Kittens, in their playfulness, often make frogs cry out; they will follow one, pat it to make it jump forward, and when it stops, smell it, as if to know what strange creature it may be. This frightens the frog, and causes it to cry.

The land-rat will eat frogs, and remains of these creatures have been found in their holes.

Most of my readers have probably heard of frog-rain;

and I now quote two instances of this occurrence from different sources. "Two gentlemen were sitting on a pillar, not far from Belfast, and were surprised by a very heavy shower, not of water, but of frogs, half formed."

"An English family residing at Rouen, saw a multitude of young frogs fall upon the roof, the window-sills, and gravel walks belonging to their house, during a very heavy thunder shower."

"In Metz, some streets were filled with them; but this was explained by a dealer in frogs applying to the tribunals for the recovery of his property. He had shut up about six thousand frogs in a particular place, and instead of having been taken up by a whirlwind, and then let down again when it was over, which was the probable explanation, some children had stolen a part of the frog-dealer's collection, and, in running away, had forgotten to close the troughs, and they therefore spread themselves throughout the neighbourhood."

TOADS (*Bufo*).

No animals possess a worse reputation than Toads. Their venomous properties, to which they have but a slight claim, are exaggerated; their nocturnal and stealthy habits have given them a place among the companions of witches; their ugly shape and their sluggish movements increasing the aversion, and obscuring their better qualities. They sleep by day in holes and dark places; crawl instead of hop; are brown and black in colour, and greedily devour insects

and slugs, those great pests to our gardens; in other respects they are very inoffensive.

The common dark brown toad of our own country is spread all over Europe, and Northern Africa and Asia. The body looks puffed and swollen, and is covered with warts of different sizes.

The poisonous quality to which I have alluded lies in some glands, placed in the skin of the back and sides, which secrete an acrid substance of the most unpleasant odour; but if the toad be squeezed, it comes out in the form of a thick, yellowish fluid, but which, according to the experiments performed with it, never does any harm, unless, as I have heard from an authentic source, it be that of raising slight blisters on a sensitive skin.

Although the tadpoles of toads must live in water, the perfect animal is entirely indifferent to the presence of this element, and will live a great many years with or without it. Professor Bell, who extends his love of animals over all creation, and who, from this love and kindness, makes pets of those creatures which are repulsive to others, possessed a very large one, which would sit on one of his hands, and eat out of the other.

The eye of the toad has always been remarkable for its brilliancy, and the quick motion of its tongue, when catching its prey, is almost incredible. Much more incredible, however, are the histories told of toads living for many years, even a hundred, encased in wood or stone; but, authenticated as many of them are, I do not see that we have any right to refuse our belief. Dr. Buckland tried some experiments, the results of which were far from satisfactory. He enclosed some in compact silicious sandstone, and others in

porous white limestone. In a year, all those in the sandstone were dead, and had been so for months, if it were possible to judge by their bodies. The greater number of those in the limestone were alive, but much emaciated, except two, which Dr. Buckland thought had been nourished by insects, which came through some crack or crevice. Before the expiration of the second year, all were dead, but they were frequently examined through the glass coverings, without admitting air; they always appeared to be awake, their eyes open, and never in a state of torpor. Four, enclosed in wood, were found dead at the end of a year. The same learned authority thus disposes of this question:—"The young toad, as soon as it leaves its tadpole state, and emerges from the water, seeks shelter in holes and crevices of rocks and trees. One may thus enter a small opening in a rock, and, when there, find food, by catching the insects which seek shelter in the same retreat; and its increase in size may prevent it from getting out again by the same opening. It is probable that there are some small apertures in all the stones in which toads are found, though they escape the notice of the workmen, who have no motive to induce them to make a narrow examination. In other instances there may have been an opening, which had been closed up after the animal was immured, by stalactitic incrustation. Deprived of food and air, it might fall into that state of torpor, or suspended animation, to which certain animals are subject in winter; but how long it might continue in that state is uncertain."

Mr. Jesse says he knew a gentleman who put a toad into a small flower-pot, and secured it, so that no

insect could penetrate it, and then buried it so deep in his garden that it was secured against the influence of frost. At the end of twenty years he took it up, and found the toad increased in size and health !

On the estate of Sir Thomas Dick Lauder, in East Lothian, a large toad was found in the heart of a smooth, straight, beech tree, thirty feet from the ground, and in a circular hole.

A still more curious instance was related by an eminent physician to Mr. Jesse. A wet spot had always been observed on a freestone mantle-piece, which afterwards cracked at that place, and upon its being taken down, a toad was found in it, dead ; but its death was probably owing to the want of that moisture which it had been able to imbibe when the stone was in the quarry, and which was gradually lessened by the action of the fire. From the moisture, there seems but little reason to doubt that the toad was alive when it was put up.

As a contrast to these singular proofs of inertness, I must quote what Mr. St. John says of toads, viz., that they are subject to the most violent fits of passion. One was caught in a hair-snare laid for birds, and went into a perfect fury, struggling and scratching at everything within its reach. They fight each other, not only in, or near the water, but in dry, dusty roads.

There is a curious genus of frogs called *Pipa*. It has a large, triangular head, more like that of a hog than one of its own race ; the muzzle is much prolonged, and the nostrils are placed at the extremity ; the eyes are very minute, and situated on the upper part of the head, and so little eyelid have they, that these eyes cannot be covered. The mouth opens very wide, and

at each angle is a little barbule, which resembles the conch of a small ear. The fore feet have each four toes, and each toe is divided into four small points, the microscopic examination of which, shews that these points have again a separate division of each into four. The hind feet have five toes, united by a skin, covered with small, hard granules. The windpipe is also singularly formed. There are two species, one of which lives in South America, and is larger than our own toad. The hideousness of its appearance is no obstacle to its being eaten by the natives. The greatest singularity of all is, the hatching of the eggs: the female deposits them at the edge of some stagnant piece of water, and the male carefully takes them up, and puts them on the back of his partner. Their pressure causes her back to swell, and thus each egg is surrounded by the projecting skin, lying in a cell half an inch deep, and a quarter of an inch in diameter. In time these little cells close, and the mother, thus burthened, goes into the water, where she lies till her eggs are not only hatched, but till the tadpoles have passed through their stage of existence, and become the shape which they hereafter retain. All this occupies eighty-two days, when the freed parent leaves the water, and rubs off her honeycomb skin against a stone. I do not know if she changes her skin as all the other Batrachians do, with whom it cracks in a straight line along the back, and underneath the body, and falls in folds on each side; then the limbs are disengaged from it, and when it is quite off, the animal, with its fore paws, makes each division into a little ball, and puts it into the mouth with the same paws, whence it goes down the throat.

SALAMANDERS (*Urodela*).

THESE reptiles are also called Newts and Efts, and much resemble lizards in their perfect form. They leave the egg directly the mother has deposited it. They undergo the same changes as frogs and toads, and their tadpoles are of the same shape, having three tufts on each side of their neck, through which they breathe. The common adult species have a row of tubercles, on their sides, whence issues a milky fluid, possessing a very strong smell, and which is poisonous to some of the feebler animals. They are celebrated for their remarkable power of reproducing limbs which have been amputated; and also of the tail; but what is more extraordinary, an eye was once taken out, and perfectly reproduced, or re-organised, at the end of a year. M. Duméril says, that one deprived of a head lived for three months, perfectly conscious of its existence, only walking a little cautiously, and occasionally coming to the surface of the water. They are called Salamanders because the fluid which issues from their tubercles is supposed to resist fire. They are small in size, with one exception, found in Japan, which measured three feet; this one eats fishes, but the others feed on worms, slugs, insects, and grubs.

Professor Bell divides them into those which have warts and those which have not; the latter have only some glandular pores on the head. One of their most curious characters is, that during the summer the male possess a dorsal fin or crest, which is absorbed during the winter, and comes out again every spring. This,

like the fine plumage of birds, is to make him handsome in the eyes of the opposite sex; it is notched, and is often tipped with bright red or violet. The tail always has a fin, but it becomes larger in the spring. The female chooses the leaf of some aquatic plant, folds it with her two hind feet, lays one egg in the fold, and the leaf remains glued together.

Newts cast their skins irregularly, but often begin at the head, slip out their legs, and when they can no longer do this, rub themselves against the stones at the bottom of the water; by this means the skin hangs loose; they then bend themselves back, and with feet and mouth complete the process. In half an hour the newt is again in its full strength, and usually swallows the skin; but as it fills with water, like a bladder, it is droll to see the efforts by which it tries to discharge the water, so as to be able to get it into its mouth.

PROTEUS.

A VERY singular reptile, like a discoloured eel, with small feet, inhabits the deep, dark underground lakes of Austria, and nowhere else had these animals been discovered for a long time. It is now, however, said that they have been found in Sicily. They were first seen in the grotto of the Magdalene, near Adelsburg, in the Duchy of Carniola, and then at Sittich, about thirty miles distant from that place; and it is not doubted that they come from some subterranean reservoir of water. When first looked at they appear to be lizards; but the head, and lower part of their body and tail, resemble those of an eel; their breathing organs are both

external and internal; the former look like a ruff encircling the throat, and the latter are real lungs. The fore-feet are very like hands, but have only three fingers, and are too feeble to support the body, or grasp anything. The hind-feet have only two claws. Two small points represent eyes. They are pale flesh colour in their ordinary condition, but exposure to light changes the skin to an olive tint, and the tufts or ruff to crimson. Their nasal organs are large, and their abundant teeth seem to shew that they prey on other animals. This, however, has not been proved, for no one has seen them eat when in confinement, where they have lived for years; the only care taken of them has been to change the water occasionally. I saw one at Dr. Neill's, in Edinburgh, who kept it in a small tank, in a dark corner of one of his green-houses, and it conveyed to me the idea that it was not a perfect creature, and had been intended to be something else. Anatomy, however, has proved that they are fully formed. Their susceptibility to light amounts to pain, and they try to get out of it as fast as possible. That belonging to Dr. Neill was killed by falling out of the tank, though there was no apparent injury. They vary much in size; from that of a quill to a man's thumb.

ANECDOTES OF FISHES.



NEARLY destitute of affection ; almost deprived of the power of uttering a sound ; scarcely knowing even a relative duty towards each other ; their chief object, that of eating ; it would at first sight seem very difficult to find any anecdotes concerning fishes, which may be calculated for a work like the present. The exceptions, however, to the above facts, are so extraordinary to us ; our great Creator has provided so many curious contrivances for their preservation ; He has made some of them so valuable to man ; He has endowed so large a portion with extreme beauty ; He has caused others to be so singular ; others again so terrible ; and He has ordered some so to step from their general character, so to surpass our finite comprehension, so to cheat us of our ideas of fixed laws, that I flatter myself this last portion of my work will afford the same interest to the general reader, as those which have had the precedence.

The first attribute in fishes which strikes the beholder, is the extreme fitness of their formation for the element in which they are destined to live. It is such as to offer the least possible resistance to the liquid through which they swim, and their greatest muscular force resides in the tail, which directs all their principal movements. Their members are short ; pliant cartilage supports the

membranes of which they are formed, and they can contract and dilate them at pleasure. Their covering is smooth and scaly, so that the water glides from it with great rapidity. To prevent the too great action of that water upon them, a row of pores on each of the sides, called the lateral line, and frequently some in the head, supply a mucous secretion, which is constantly exuding. Some fishes require to come occasionally to the surface; but, in general, the air (oxygen) which they breathe is almost entirely conveyed through the medium of water, and instead of lungs, they are furnished with fringes, or a number of closely set plates, supported by arches of bone, into which the blood flows, and there receives its necessary quantity of refreshment from the water which rushes in at the mouth. This yields so modified a quantity, that they cannot be anything but cold-blooded animals. In most fishes these gills are protected by one or two covers, or lids, which open to let out the water. I will not dilate on the exceptions to this last apparatus, but merely pause to remark, that it is an error to suppose the duration of a fish's life out of water, depends upon the size of these openings.

The few sounds which proceed from fishes are not to be ascribed to a voice, and little is known of the manner in which they are produced. Some refer them to a certain organ called the swimming or air-bladder; a vessel for containing air, which lies under their backbone when present, but of which many fishes are totally destitute, even though they occasionally send forth sounds. The irregular existence of the swimming bladder also refutes the assertion, that it helps its possessor to rise and sink in its native element.

The ears are but little developed, and are so shut up

within the skull, that it has been often doubted whether they hear at all ; fishes, however, do possess this faculty in a modified degree. Their eyes have no lids, are nearly fixed, and their size varies according to the quantity of light which they require ; those living in deep waters having in general the largest. Their tongue and palate are often covered with prickles, teeth, or bony plates, so that they cannot possess a delicate taste. Their small nostrils are never saluted by the fresh perfumes of the fields and the forest, and their power of smell is accordingly limited. Their touch, covered as they are with scales, chiefly resides in their lips, to which small barbules are often attached to increase this faculty, but much more often their lips are as scaly as their sides. Their proportion of brain is small, and thus they may be looked upon as a race of beings, in whom the highly sensitive functions are but feebly developed. I will, however, now try, in some measure, to redeem them from the low place to which they may have been condemned by this description.

They are divided by naturalists into three groups, which are sub-divided ; but setting this arrangement aside, those which are most useful to man for food will first be considered.

Foremost in importance and value is the Cod (*Gadus*), which is fished for on the coasts of Iceland, Newfoundland, Eastern North America, Ireland, Great Britain, and the Baltic, and is found as far south as Gibraltar. It is a source of profit and employment to many thousands ; and it must not be forgotten that, in these fisheries of stormy seas, the best and hardest sailors have been trained. The flesh of cod is white,

and is easily divided into flakes ; it is also very nutritious, and is salted, dried, and sent all over the world.

The bait adopted for catching cod (for the hook and line are always used) consists of pieces of fish, sea-fowl, mollusks, etc., and their voracity renders them an easy prey at a depth of from twenty to fifty fathoms. Of late years they have changed their places of resort ; and our fishermen find them most plentifully in the sea off Lincolnshire and Norfolk, whence they are brought alive to the London markets in well-boats. These, however, stop at Greenwich, as fresher water than is to be found there would kill them. They are easily preserved alive in ponds which communicate with the sea, where they learn to know those who feed them ; and no sooner do their friends appear, than numerous mouths are thrust forth, and open to receive the daily supply. Five hundred and fifty cod-fish have been taken in eleven hours by one man, and the spawn of one of these alone will contain nine millions of eggs. Their weight has occasionally amounted, individually, to from sixty to seventy-eight pounds ; their colour is a dull olive green, fading to white underneath, and they are coarse-looking fishes.

The Haddock (*Gadus æglefinus*) frequents our shores, and those of Ireland, in immense shoals, and goes into more northern and southern localities, but not into the Mediterranean, and is also caught with lines. The dried haddocks of Scotland, pronounced by the common people of that country haddick, are famous, and the live fishes become very tame and gentle in the preserve to which I have already alluded. They have a dark spot on each shoulder, and these are often united to each other by a dark line, which Mr. Yarrell thinks

obtained for them the name of *Asinus* (Ass) among the ancients; it being analogous to the stripe on the withers of that animal. There is, however, another history attached to the haddock, as well as to other fishes with one dark spot on each side, whether it come from the scene of the miracle or not. It is said to be the fish which St. Peter caught to supply the tribute-money, and that these spots were for ever continued, in memory of the marks produced by his thumb and finger. The haddock is more esteemed in Scotland when fresh, than it is in England, where it is often stuffed and baked, to give it a flavour, which it does not of itself possess.

Few invalids in this country are unacquainted with the delicate fish called the Whiting (*Gadus Merlangus*), to whom it is recommended by the light nature of its flaky muscles. It is also an inhabitant of northern seas, and is caught, like others of its family, with lines and baited hooks. It is a voracious feeder, and it is supposed that it often quits its place in search of prey, always, however, preferring sandy banks. It is seldom seen larger than sixteen inches, and a pound and a half in weight; but one of seven pounds is recorded.

The Hake (*Gadus Merluccius*) is one of the northern fishes of the cod family, which extends to the Mediterranean; it follows the pilchards to our southern coasts, and devours them by wholesale, seventeen having been found in the stomach of one of the usual size. Their digestion is very rapid, but they eject their food if likely to impede their progress in the attempt to escape. They are so abundant on the coasts of Ireland, that a thousand have been taken in one night by six men who were line-fishing. The specific name means Sea-pike, which they received in consequence of

their voracity ; they are chiefly eaten by the poorer classes, and the salted and dried fishes are mostly sent to Spain. In the Mediterranean they are packed for transport with aromatic plants.

Of scarcely less importance than the cod, Ling (*Gadus Mqlua*) is caught in the same localities, and by the same means. It is split open, salted, and dried ; and the principal traffic for it is with Spain. The air, or swimming bladders, are cured, packed in barrels, and sold under the name of cod's sounds. It is from the liver of the ling that the famous oil is chiefly extracted. It is curious, now that it is so extensively employed in consumption, and other cases of great debility, to read what Mr. Couch says of it : " that it supplies the cottage lamp ; and that those who can overcome the repugnance arising from its nauseous smell and taste, have found it efficacious in severe cases of rheumatism, taken in small beer, in doses of from half an ounce to an ounce and a half. From fifty to sixty gallons of this oil, and that from the liver of the codfish, were dispensed in one large establishment for this purpose." The same gentleman gives a proof of the manner in which the ling sustains injury, by saying, " I once saw a ling that had swallowed the usual large hook, shaft foremost, the point of which had fixed in the stomach, and as the line drew it, it turned round, entered the opposite side of the stomach, and fastened the organ together in complicated folds ; yet, having escaped by breaking the line, the ling survived to swallow another hook, and be taken several days after. This fish has been known to measure seven feet, and to weigh seventy pounds.

There is a much smaller member of the cod family,

which is remarkable for being the only British species which will live in fresh water. It is found in the north of Europe, Siberia, Asia, and India ; but in England it is more rare, and frequents the Cam, some rivers of Norfolk and Lineolnshire, Yorkshire and Durham, the Trent, the Ouse, and a few others. It hides itself in holes, or under stones, where it watehes for its prey, and feeds at night. Those who have tasted it say it is one of the most delicious fishes ever eaten ; but its head is so ugly and ill-proportioned that it is generally cut off before its owner is brought to table.

The beautiful Mackerel, with their iridescent sides, their elegant shape, their rich dark green and blue marked backs, and their great numbers, are well known. They are peculiarly European fishes, and were for a long time supposed to migrate ; but eloser and more continued observations have proved that they live in deep waters the greater part of the year, and are only visible to us when they come into the shallows to deposit their spawn. A confirmation of this is offered by stray individuals being eaught on our coasts at all times of the year. They differ in size and quality, and in some countries are but little esteemed. They reach their greatest perfection in the English Channel and the Black Sea, the smaller fishes possessing the best flavour. They must be eaten perfectly fresh, and they are consequently allowed to be cried through the streets in England on the Sunday morning. The usual manner of taking them is by what is called a drifting net, with meshes large enough to admit them beyond the gill covers ; they run their heads through as the net hangs in the water, open the gill covers, and cannot extricate themselves. Another sort of net

is made to enclose a number; and they are also captured by the line, when a moving bait is the best, such as a long slice even of one of their own species, a piece of red leather, or scarlet cloth. Nearly eleven thousand have been brought ashore in one night; and in France they are salted and taken to the interior of the country.

That famous sauce of ancient epicures, called *Garum*, was chiefly made from the blood and intestines of the mackerel, and is supposed to have been invented by the Greeks. Several receipts for it are still preserved, all of which have putrid fish as a foundation. The odour of it must have been insupportable; but this was no obstacle to its consumption.

In all times, of which we have any record, the Tunny fishery of the Mediterranean and the coast of Spain has been celebrated; and Gyllius, in his *Topography of Constantinople*, says, "With one cast of the net twenty boats may be filled. They are taken with nets, or by the hand, and may be stoned to death as they approach the parts in close troops. Women catch them by merely hanging a basket out of their windows; in short, without baiting a hook, enough may be secured to provision all Greece, and a large portion of Europe and Asia." Those from Spain and Sardinia were reckoned the best by the Romans, because they were supposed to feed on the "acorns of small oaks common on their shores, which grew in the sea," by which some sort of sea-weed was probably meant. The fishery is now continued as far as Madeira, and I have seen the peasants there driving home their bullock sledges, with large lumps of tunny on them, looking like coarse beef. In the Mediterranean, look-out sentinels are placed on some elevated spot, who give notice of the approach of the

fishes. The boats then start under the command of a chief; they form a semicircle round the troop, and drive them to the shore, where they are rapidly secured, the whole forming a noisy and animated scene, some being taken by nets, others killed by poles, and the young and small ones are carried out in the arms of those who are fishing. A machine called a *madrague*, or *tonnaco*, is also used for the same purpose, consisting of nets and anchors, extending an Italian mile in length, and formed (by the nets) into divisions or chambers. The tunnies are driven from one to the other till they enter the chamber of death, which is a net placed horizontally, and raised at pleasure; this brings the tunnies to the surface, where they are destroyed by men in boats, and which spectacle affords much amusement to the Sicilians; and being a timid fish, they do not cause any danger, scarcely offer any resistance, and are often driven into the snares by the sounds of the bugle-horn.

The under part of the fish is most esteemed, and is twice as dear as the rest; much of it is salted and packed in barrels. The whole of the tunny is said to be firm and well-flavoured, better even than the sturgeon; it is fried, boiled, stewed, made into soup and pies; the latter of which are greatly celebrated. Prepared with salt and oil, it is the "*Thon Mariné*," which is eaten as we eat pickled salmon, and will keep for a year; great care, however, must be taken never to touch it if in the least putrid, for in that state it will violently derange the stomach, and even cause death.

The famous John Dory is rare in the north; it is more abundant on the coasts of Cornwall and Devonshire, but its chief locality is the Mediterranean. The English, and Mr. Quin, claim the merit of finding out

its great excellence, for its ugly and singular appearance seem to have created a prejudice against it elsewhere. It is another of St. Peter's fishes, the black spot on each side being ascribed to the finger and thumb of the Apostle. It is also given to St. Christopher, who, when wading through an arm of the sea, bearing our blessed Saviour, is said to have caught a Dory, and left eternal marks upon it in memory of the circumstance.

The origin of the name, John Dory, has caused much discussion, some ascribing it to "il janitore," which is its appellation in the Adriatic, in allusion to the office of St. Peter, as keeping the gates of heaven; but the most probable etymology is the French title, "jean dorée," bestowed on account of its golden yellow colour. It is often dried and hung up in Grecian churches because of its supposed sanctity.

The meaning of the German word *Heer*, is army, and from it comes our word Herring, well applied to the vast multitudes of fishes which go by that name, and periodically caught by millions on our coasts. They are long and sharp in form, and the opening of their gills is very large. The idea that fishes so formed must die soon, has probably given rise to the supposition that they die as they are dragged into the fishing boat, but there are many proofs that this is an exaggeration; they have been known to live two or three hours after leaving the water, and when they die in the net they are generally suffocated by numbers. They give a faint squeak sometimes before they expire; but how this is produced is not known. They feed on small crustaceæ, the spawn of other fishes, and various aquatic animals, and not upon mud and water, as many have

believed. They even have maladies which arise from unwholesome food. They are chiefly the inhabitants of northern oceans, and are largest in those nearest to the pole, contrary to the usual laws.

The wonderful fertility of herrings is almost marvellous; each female will lay from 21,000 to 36,000 eggs. Block says 68,000. They advance in columns five or six miles long, nay, several leagues, and three or four wide, and nothing can be more beautiful than their appearance in a calm moonlight night, for the sea then appears to be filled with precious stones, and their own phosphorescence, mingled with that of the sea, gives an appearance of brilliant flames. They delight in lifting their heads above the water, as if to enjoy the air, which action makes a noise like the dropping of rain, and covers the sea with bubbles. They occasionally leap out of the water; but a more remarkable part of their history is, that on the coasts of Scotland, where the herrings swarm, a noise is frequently heard like that of a pistol-shot, and which is said to announce their immediate departure. The fishermen say, "the herrings have cracked," and by the next day not one is left. Whether this is true or not, they certainly leave the spot which they have filled for some time, in the most sudden and complete manner.

Herrings are very capricious, rarely frequenting the same haunt for any length of time, and it is amusing to glance over the reasons assigned for their disappearance. The manufacture of kelp has been one alleged cause, and the firing of guns another, and from this arose the prohibition against discharging these weapons during the fishery. The ancient Highlanders

declared they would not stay where blood had been shed; and the Danes assert that they were driven from their part of the Baltic by the battle of Copenhagen. Steam-boats are now the fashionable enemies; and the best of all is, that a clergyman on the coast of Ireland, having publicly declared his intention of taking his tithe of herrings, this so affronted these fishes that they left that shore for ever. I presume that one word will explain all these phenomena, and that is, food.

The real enemies of the herrings, after man, are first the large cetaceous animals, one of which is even named the herring whale in Iceland, on account of its eager pursuit of them. They try to escape from it by getting into creeks which are too small for it to enter, and thus become more easy prey to man. Then come seals, and after them sharks, which pursue them with great eagerness. Many fishes enter the lists against them, such as cod, salmon, chimæras, sturgeon, etc. Sea fowls are so absorbed by their assaults upon them, that fishermen can secure these birds with their hands at that time.

The history of this important fishery would be an abridgement of those of France, Holland, and England, so many treaties have been made and broken on all sides between these countries, concerning herrings; and if it were possible to get at private annals, many histories of daring courage and sad destruction might be gleaned from those engaged in its pursuit, in time of war. The mode of salting, drying, and extracting oil from these finny multitudes, as pursued in all countries where they are found, are the same as those practised for other fishes, but there is scarcely any inhabitant of the sea which forms so universal and important an item of food

as the herring, for no ship's provision is complete without them.

Pilchards have often been mistaken for herrings, but they are more nearly allied to the Sardinhas; they are caught on the French and Spanish coasts, occasionally enter the Channel, and frequent Ireland, but they confine themselves to very narrow limits. They often assemble in shoals in the month of March, and thousands of hogsheads have then been taken of them off the coast of Cornwall, which they more or less frequent all the year round, but their visits in such numbers are very irregular. When they do come, a fishing boat will often capture twenty thousand in a night. They are generally caught with the large net called a sean, and being very timid fishes, great caution is required to take up the sean, for fear they should burst it with their struggles. The men are guided to the part to which they ought to proceed to drive the fish into the net, by their comrades, who stand on high places, and make signals with furze bushes. They are salted and chiefly sent to the Mediterranean.

The far-famed little fish, the White Bait (*Rogenia*), was long a subject of discussion, some supposing it to be a young sprat, others asserting that it was the fry of the herring; in fact, all saying anything but the truth. It is a separate, full-grown fish of itself, for whose merits the lovers of good cheer will vouch. When contemplating the influence of fishes on mankind, we must by no means omit the claim of this dainty little creature; we must think of the dinners given at Blackwall and Greenwich, of which it forms the foundation, or excuse; the assemblage of learned and scientific men; who, reposing from the toils of months, meet to forget books

and science, and refresh themselves by talking nonsense; men who, after toiling through the thorny mazes of diplomatic life, assemble, to smother their ambition, to recruit their tempers, to set aside their rivalry, and set their minds on a simple little fish, fried in fine flour. Then the inns that are founded in which to get these dinners, and the employment given to fishermen and all the persons connected with them; and who will say that the tiniest things do not influence the world. White bait will only live in brackish water, and are caught from April till September, by nets, in the river Thames, and "the Humble, which runs into the Southampton Water." They probably exist in other rivers of England; and some are captured on the Kent and Essex coasts during the sprat season. When kept too long, they partially, perhaps entirely dissolve.

The Sardinha, the Anchovy, and the Sprat, are all important articles of food and luxury; the latter term chiefly applying to the anchovy, which mostly comes from the Mediterranean and the Black Sea; but is often found on the Northern Coasts. Mr. Couch says he has seen it as large as seven inches and a half on the Cornish shores. They are arranged in layers, in barrels, with salt between them, and their heads are first pinched off with the thumb nail. They formed one of the ingredients of the ancient garum.

The sardinhas are so plentiful in Portugal, that when they are in season, Lisbon reeks with their strong odour; for they are carried by the inhabitants, to the open and public kitchens, to be cooked. The poorer classes consume large quantities of them, and servants, when they engage themselves for places, bargain that they are not to have them for dinner oftener than twice

in the week. They are extremely savoury, but too strong for a delicate stomach, and are often preserved in tin cases full of olive oil.

The Northern Seas, and those of the west of France, yield the sprat; which is an article of large consumption in England, both that of men and of fishes, for they are constantly found in the stomachs of their larger brethren. They, as well as herrings, are capricious in their visitations, and once re-appeared at Taunton, after an interval of fifty years. They are sometimes sold at the rate of sixpence a bushel, for manure.

Every individual of the Salmon family affords nutriment, sport, or profitable employment to the fisherman and the amateur; and it is especially among them that the "fish rises to the fly." The zest with which this mode of capture is undertaken by various ranks, could scarcely be believed in other countries than England. I was once staying at the house of a friend of sober years, in London, who could only indulge now and then in the sport, and just as the season commenced, he was missing. He had not gone out, and where could he be? He was called, and made no answer; the dining room door was locked; and, alarmed at the silence within, I proceeded to another entrance, which, fortunately for our anxiety, he had forgotten to secure. I entered, and found him standing on a stool at one corner, rod and line in hand, practising the art which he intended to put in force two days after, and "flogging" the carpet, instead of the water. My laughter disturbed him, and he declared he had been so absorbed, that he had not heard any of the loud calls upon his name.

Denizens of both salt and fresh water, changing in their appearance at various periods of their growth,

much discussion has taken place as to which of this numerous family may, or may not be, exclusively salmon. The differences of age have been declared differences of species, till they have been multiplied to an unreasonable extent, and even yet, notwithstanding the investigations and experiments of clever, patient men, the question is not satisfactorily settled.

The real adult salmon, when eaten quite fresh, is one of the most wholesome aliments which a bountiful Providence has bestowed upon us. Dried or pickled, it is a delicious addition to the bill of fare in countries which it does not frequent; and it may be given to children, if cooked only an hour or two after it comes from the water. Some epicures think it tastes better if kept for a short time; but then, what is called the curd (which in reality is the fat) is turned to oil, and renders the fish less easy of digestion.

Salmon ascend rivers in order to deposit their spawn, but when they go back to the sea no one knows. They are occasionally taken on the sea-coast after very stormy weather; and it is the opinion of naturalists that they retire into the deep holes which are hollowed out of the shore. The leaps which they take when obliged to pass over waterfalls shew immense strength and vigour; they bring head and tail nearly together, and their action may be understood if we bend a thin plate of steel till the ends nearly meet, and then suddenly let it go. They arrive here early in the spring for spawning, and frequent some rivers sooner than others; the Severn is one of the first in England thus visited, and the salmon found there is smaller, and of more delicate flavour than it is elsewhere. In Sweden, if the rivers freeze early, the

salmon remain in them all the winter, under the ice. It is some time, however, after spawning, before they are good to eat. They grow very fast; are voracious devourers of small fishes; and, to give an idea of their numbers, in small rivers 700 have been taken at one haul of the net, and at Berghem, and in the whole of Norway, where the salmon fishery is carried on with the most vigour, 2,000 have been caught in one day. The British islands, the northern and middle countries of Europe, Asia, and America, and the Caspian Sea, yield these noble fishes in great numbers, and they are also caught with nets, the line, or by spearing; dogs also are often trained to afford valuable assistance. Mr. Yarrell says, that when the common tern, or sea-swallow, ascends the Thames, fishermen look out for the rare and valuable prize of a salmon in that river; on which account this bird has been named by them the salmon bird.

The right of fishing in many of the Scotch rivers, Mr. St. John tells us, is vested in a very singular manner, and some proprietors are obliged to pay a rent for fishing on their own ground. A certain laird possessed a small island in a river of Sutherlandshire. He grudged his neighbour the profits which he enjoyed from a good fishery lower down than his own, and commenced building a fort on the island. Accidentally meeting his neighbour, he asked him to allow of his fishing, and so feeding his workmen and retainers, up and down the whole river, till the building was finished. Permission was given, and a legal document signed to that effect. Of course the fort was never finished, and the right still continues vested in the family.

Nothing can exceed the picturesque beauty and

animation of salmon-spearing by torch-light, of which there is a graphic description in Mr. St. John's work, forming a contrast to his description of a lonely fisherman, "perched upon a point of rock, with a staff sixteen feet long, ending in a sharp hook, with which he strikes the salmon as they stop for a moment, to rest in some eddy of the boiling torrent, before taking their final leap up the fall."

Seals and gulls are great enemies to the salmon; the former attacking the full-grown fish; the latter particularly directing its attacks towards the fry, as it descends the river. They all swim very swiftly, sometimes at the rate of twenty-six feet in a second, and from twenty to twenty-five miles in the hour. If alarmed, it is scarcely possible to follow them with the eye, their rapidity is so great, and the height of their leaps is from ten to sixteen feet. They generally return to the same places to deposit their spawn, a fact which has been ascertained by marking the fishes. Their weight has been proved to amount occasionally to eighty-three pounds; they make a furrow with their noses in the gravel, deposit their eggs in it, and, covering them up, leave them to their fate.

Great is the variety of colour, size, and shape of Trout; always, however, preserving their strong resemblance to the original type. Some are richly marked with spots, others have but few; some have red flesh, others pale; and this not only in different streams, but different in the same stream. That this is probably due to food, the following fact will shew:—Some trout were put into the moat which surrounds the castle of Kothberg, five miles from Weimar, whose flesh was white. In a few weeks this flesh became

salmon-colour, or red. Ten years after, the moat was cleaned, and all the weeds taken out. From that time the fresh white trout put in did not change their colour, but three or four years after, the plants having again become abundant, they assumed their brighter tint. In that charming book entitled "*Salmonia*," the opinion is expressed, that the red colour of the trout is due to an oil, which may be extracted by alcohol, and that those fish which are white have been ill-fed. Trout love to swim against the current, and snap up the flies which hover on the surface; but they are difficult to catch, which makes the sport so much relished. One of the larger kind, weighing from twelve to fourteen pounds, is rarely taken except by a first-rate fisherman.

The fragrance, the beauty, and the flavour of the Smelt, make it one of our daintiest fishes. It lives in the estuaries of rivers, and ascends them to some distance; but the steamboats which ply upon our water thoroughfares are said to have frightened them away from many spots which they used to frequent. Those from the Medway are reckoned the best in England; they are not found in the Channel. Other eastern parts of Great Britain afford them, and some in the west; also Ireland. Attempts have been made to habituate them entirely to fresh water, which have perfectly succeeded. They are unusually large if they measure eleven inches in length; and they ascend rivers in narrow bands, and deposit their eggs in the hollows of aqueous rocks. The remarkable odour exhaled by them has been compared to cucumber, violets, thyme, etc.

The Grayling is one of the most valuable of our

fresh-water fishes, because it is to be caught when others of the salmon family have gone to sea, or are lying snugly in their holes in the deep parts of rivers and lakes. Their shape is particularly elegant; but their dorsal and ventral fins are so beautifully spotted with red and black, that they alone would render them beautiful. The graylings of this country cannot endure even brackish water, and yet we hear of their living in the Baltic. They are found in some of the rivers of Europe, and lakes of North America. St. Ambrose called them the flower of fishes, perhaps as much from their beauty, as from the odour of thyme which they emit when fresh from the water, and when they should be immediately dressed. They somewhat resemble the smelts in flavour.

The Charr of Wales and our northern lakes, is the same as that of the lake of Geneva. It is always a beautiful fish, dark-brown and rose-colour, with a blue light all over it, resembling the bloom of plums. In the spawning season, it assumes the richest gold and flame-coloured tints. By all accounts, it is a more energetic fish in the north than in Switzerland, but it is larger there than here. The flesh is of a pale red, and nothing can be more delicious than it is, when fresh, or when potted. A curious assertion is made by M. Jurine, of those in the Rhone; that they all become blind from cataract, if kept in a reservoir of water for any length of time.

There are two rivers which flow into the lake of Windermere, where Charr are very plentiful; the Rothay, which has a sandy; bed and the Brathay, whose channel is rocky; and when the shoals move to the river to deposit their spawn, if they take the Rothay, they

invariably return, and enter the Brathay, while Trout choose the Rothay.

The exquisite little Vendace, or Vendis, is only found in one locality in Great Britain, and that is, the lakes of Loch Maben in Dumfriesshire. It is of the brightest silver, green, and lilac, and its fins are of a pale primrose colour; well worthy of the beautiful queen who is said to have introduced it to its peculiar abode. This, however, is doubted, and its introduction is more reasonably ascribed to some religious community. They are always caught in nets, no bait having yet been found which will allure them. They feed on aquatic insects, and taste something like smelts.

Numbers of fresh-water fishes are caught by anglers in most of the streams of the United Kingdom, which I have preferred throwing together; although they belong to two great families. Our eyes are accustomed to see them without reference to this; and the Carp, from its sagacity and well-tasted flesh, seems to claim the pre-eminence. It is often called the fox of fresh-water fishes. It will live to a great age, and can even be kept a long time out of water. When tied to the ceiling of a cellar, enveloped in a net lined with wet moss, now and then watered, and crammed with bread and milk, they will not only exist, but get fat, and have an improved flavour. They are said to live two hundred years; but, when large, their flesh is coarse. Two old carp lived in a river which flowed past a house in which I resided during my childhood; they were there before I was born, and grown-up men declared they had been known to their fathers. I was fishing in this river, one day, and felt something pull very strongly at my hook. As pike abounded there, I supposed I had caught one

of them, but the fish did not swim away as pike usually do. I cautiously pulled it out, and discovered that I had one of the "old carp" almost within my grasp. I had no landing-net, or I could have secured him, and my line was not strong enough to hold him; it broke, and he fell again into the water. Many years after, I revisited the same scenes, though not the same house, and enquired for the "old carp." I was not only assured of their existence, but as that part of the river near me was going to be dragged on the morrow, I stood a chance of seeing my old acquaintances. "We will catch them this time," was the vow made. The river was dragged, plenty of fishes were caught, but the two fishes were wanting. They were afterwards seen, lazily swimming at some distance down the stream; and one of the men who had been employed, shook his head mysteriously, and exclaimed, "It's just like 'em; nobody never knows how they gets away."

Carp were brought to England, it is supposed, in 1496, and were esteemed as "deyntous fische;" rewards being given, in 1552, to those who brought them to Henry the Eighth. They are not now held in much esteem in England; in France they are thought more of, and are either stewed or eaten fried, with lemon juice squeezed over them; we make a dish of them, which tastes of the sauce more than the fish. They will recognise those who feed them; and retire into deep muddy places during the winter. They can live in the sea, where they acquire sixty pounds weight; they abound in the Caspian Sea; and waistcoats are made of their skins by the Kalmuk Tartars, prepared with sour milk and tannin, made from the roots of the *Statice Corniaria*, and which are waterproof. They leap like the salmon,

when they desire to overcome any obstacle; but when they know a net is in the water, they bury their heads in the mud, and let it pass over them. They are very subject to deformities.

The Gold and Silver Fishes of our ornamental ponds are a species of carp, and are from China, where they will come to be fed at the sound of a whistle; and are said to entertain much affection for each other. One which was deprived of his companion, refused to eat, or be lively, till she was restored to him. They will endure great heat, and are particularly prone to changes of form; some will want fins, others will have more than are necessary.

Dr. Tench, for such is his appellation in several parts of the country, is said to heal his wounded companions, by shedding over them the mucous secretion with which he is so abundantly provided. He himself keeps alive longer than most fishes, and is a fleshy, clever fellow, hiding himself under mud when danger comes, and when he gets a snug place to live in, not at all liking to come out of it. Let not the portrait painters of fishes be tempted by his rich green and gold coat to make a resemblance of him; for when they come to the small scales on his fat sides, they will repent of their undertaking. It so happens, that I have copied him fifty-six times over, and I now cannot look at him without a feeling of weariness.

I never heard of his being dressed in any way for the table except as a stew, in which, like the carp, he may be considered as "a vehicle for the sauce." If he be suspected of retaining the flavour of his beloved mud, he must be condemned to two or three days in clear water before he can be cooked. The tench of

Thornville Hall, whose fame has been sung and said far and near, grew to the shape of the hole in which he had ensconced himself; he weighed eleven pounds nine ounces and a quarter, and part of him was of a vermilion colour. He was put into clean water, and was good-tempered enough not to pine after his dirty retreat.

I must be contented with more cursory remarks upon others of our fresh-water fishes, as my limits are drawing to a close, and I have still the terrible and the strange to notice.

The Perch, which, in its best dress, always assumed in a mill-pool with a gravelly soil, is the handsomest of them all, with his black bars on his sides, his emerald-green studs, his finely-tinted fins, and formidable spines. He is a dangerous enemy, and few of his aquatic companions will venture to touch him. He has firm, white flesh of his own, will learn to eat food from the fingers of those who will take the trouble of giving it to him; and will swallow almost anything. His handsome scales were, at one time, converted into pretty ornaments for ladies' wear, but they are now gone out of fashion.

The Roach forms a strong contrast to the perch; the word "sheepish," being generally applied to express his amount of sagacity. He, like many other fishes, is all the handsomer for clean water, when he comes out in dark-blue, with red and yellow fins. Closely allied to him is the Red-eye, Rudd, or Shallow, of more confined locality; for he is not known in all temperate countries. Both, with the more delicate looking Dace, of elegant form, are best when no other fish is to be had. The Bream, with its angular shape, and broad, flattened sides, has not a better reputation; nor the Chub either, with his thick head.

The Barbel is not eaten, except by those with whom food is often scarce; but he is more tolerable if cut in pieces, and a slice of bacon be tied round each, as it is put into the kettle. Like most fishes with thick tails, he affords excellent sport to the angler, by swimming away as fast as he can when he feels the hook in his fleshy lips; and when he is put into the well of a boat, he will act the housemaid, and lash his tail about in such a manner that his companions in prison are sure of, at least, a clean dwelling.

The Gudgeon is an excellent little fish, not too full of bones, and of dainty flavour; bites freely, and is consequently a great favourite; but there is one always slily on the watch, not to save his life for the love of him, but from greediness, ready to devour the tempting bait which conceals the hook. He is the Pope or Ruffe; a bold, handsome fellow, all yellow, with black spots, fringed scales, and green spots; but as he is not good to eat, the gudgeon-fishers get out of patience with him, and let him go again; not in peace, for they stick a slice of cork on the strong spines of his dorsal fin, and set him swimming. On he must go, at the top of the water (something like the cork-leg), and as he never can sink, he is carried no one knows where.

There is a saying, which some persons think very illiberal, that little animals, from the human species downwards, are all pugnacious. It is verified in many instances, and in none more so than the little Sticklebacks; those spiny fishes which inhabit our rivers and brooks, and are more than a match for the ferocious perch, who himself outdoes so many others; for, sticking up the prickles of their backs, as the larger fish

swallows them, they choke him, and are either disgorged, or all die together. When they are captured and put into a tub full of water, they seem to make a tour of inspection, and afterwards take up a position; and if any of the others intrude upon it, a furious combat follows. They swim round each other in the most rapid manner, try to wound with their spines, and the conqueror pursues his victim with fury, till he sinks from exhaustion. Sometimes they rip their adversary open, and he dies immediately; and these battles will be going on in three or four parts of the tub at the same time. It must be observed, however, that the females are quite peaceable. Some years, sticklebacks are so plentiful in Lincolnshire, that they are sold to farmers at the rate of a halfpenny a bushel, as manure for their land. They are insatiable eaters, and are very destructive to the fry of other fishes.

The gay little Minnows of our brooks and rivers are in the habit of gathering together, with their heads in the centre, and then look like a starry flower. Their principal use is to form a bait for larger fishes.

I presume it is well known that a miller always tests the meal in process of grinding, by rubbing it with his thumb; this necessarily makes the thumb broad and flat, and just such a shape is presented to us by a small fish called, in consequence, the "Miller's Thumb, or River Bull-head." It abounds all over Europe, and hides itself under loose stones. It is said to be good eating, but there must be very little to be had out of it, as its head occupies so large a portion of the whole fish. In Russia it is supposed to be a charm against fever; and also, when dried, hung up, and suspended by a single thread, like the king-fisher, to point its

head in the direction where the wind blows. They very easily dry, and, if covered with varnish, will keep for ever, if no accident destroy them.

To "tickle the tail of a Loach," is a favourite pastime with idle boys, and I was painfully convinced of the sensitiveness of this small fish in that part of him, by his suddenly leaping up in my face, when I thought he was dead, and touched him with the point of my compasses. He is a delicious little morsel, and is found under the stones of most rivers. His six barbules shew that he feeds at the bottom of the water, where he eats worms and aquatic insects. He is very restless, and apparently excited, just before or after a thunder storm; like most fishes that live near the ground.

A gracefully formed, and delicately coloured fish, called the Graining, is found only in one or two rivers in Lancashire, but it is more widely distributed in the lakes of Switzerland. The drawings for my work on "The Fresh-water Fishes of Great Britain," were all taken from the living originals, and it was necessary to go to the different places where they were to be found. I accordingly visited Knowsley, in the hope of there procuring the graining, but was disappointed. It was a serious matter to leave it at that time, and afterwards return to Lancashire for it, and a way of transporting it alive to London occurred to me, and was put in practice by my excellent friend, Dr. Kenrick, of Warrington. A large bladder was procured, half filled with water from the river in which the fishes lived; three were then put into this; the rest of the bladder was filled with air by means of a pair of bellows, the neck was rapidly tied up, and suspended to the lid of a box; the box was filled with wet grass, and the whole dispatched by coach

and railway. I anxiously opened the box immediately on its arrival, cut the bladder open, and the grainings rushed out with the water into a pan placed on purpose, and lived as long as I required them to be in life. I mention this, as a method which may, perhaps, be tried with equal success on other occasions.

I must not forget to mention the pretty little green and silver fish called the Bleak, and sometimes the Mad Bleak, owing to the violent contortions which it often makes, and the high leaps which it takes out of the water; these, however, are not due to its own gaiety of disposition, but to the irritation of worms which get into its brain. It is an inhabitant of most of the fresh waters of Europe, and much eaten by the poorer people; but its value lies in the beautiful silvery pigment which is found beneath its scales. Taking care to avoid the green part, these scales are scraped off, shaken in a vessel containing but little water, strained through a sieve, which retains the scales, and suffers the silvery liquid to pass through; a fine metallic powder is thus deposited, to which is added a sufficient quantity of ammonia to prevent decomposition; this is mixed with a little gelatine, and then introduced into glass beads. The manufacture was formerly of more importance than it is now, fashion having lessened the demand for artificial pearls. The inventor of it is said to have been a man named Jaquin, about the year 1680, who brought it to such perfection that he deceived even jewellers. Others have laid claim to the invention, and it has been erroneously ascribed to the Chinese.

Pike are not indigenous to this country, but are first mentioned in the reign of Richard II. They were still so rare in the time of Henry VIII., that a large one

was sold for double the price of a house lamb. They are very fierce and voracious fishes, eat rats, ducks, and moor-hens; attack swans, the heads of mules when drinking, and men's and women's feet and hands when bathing—in fact, anything; which voracious propensities have dignified them with the name of “Fresh-water Sharks.” The Pike marked by order of Frederick II., with a brazen ring, bearing an inscription, lived, if the inscription told the truth, to be 267 years old, and was taken at Heilbrunn, in Swabia, when it weighed 350 lbs. The skeleton, which measures nineteen feet in length, was kept at Mannheim for a long time.* Concerning the large pike of our own country, Isaac Walton says, “that they have more state than goodness,” and that the smaller or middle-sized pikes, “by the most and choicest palates, are observed to be the best.” “Pickerill” used to be the name for the smaller pike, but “Jack” seems to have been more recently adopted for those under a certain weight. Their spawn, prepared with sardinhas, is said to be very good, and is sold in Germany under the name of Netzin. Their flesh is firm and good, but tiresome to eat, on account of their bones being forked and numerous.

The waters of the lake of Cirknitz, in Carniola, in the early part of July, disappear through subterranean passages, and then an abundance of fishes is procured. As soon as the water begins to diminish, a bell is rung, and the neighbouring inhabitants rush to the lake, with nets fastened to long poles. The eight outlets of the lake belong to proprietors, who sell the right of fishing there, paying according to the number of times that

* Some greatly doubt this history, and declare that the skeleton has been manufactured.

they throw their nets. When these have finished, the mud is abandoned to a general search ; some even venture down the outlets, but are soon obliged to retire, on account of the number of leeches that fasten upon their legs. It is in this mud that pike are found which weigh forty pounds. They are useful in large ponds, because they prevent the excessive multiplication of smaller fishes, but are too destructive for small pieces of water. They are subject to a peculiar malady, which fishermen call the small-pox. They, more than most fishes, shew signs of intelligence ; and in support of this, I now copy an anecdote which, authenticated as it is, seems to give us a new idea respecting fishes, and to cause a regret, that the element in which they live, makes it difficult to know them more intimately.

“At a meeting of the Literary and Philosophical Society of Liverpool (Feb. 1850), Dr. Warwick communicated a remarkable anecdote of a pike. When residing at Durham, the seat of the Earl of Stamford and Warrington, he was walking one evening in the park, and came to a pond, where fish intended for the table were temporarily kept. He took particular notice of a fine pike, of about six pounds weight, which, when it observed him, darted hastily away. In so doing, it thrust its head against a tenter hook in a post ; and, as it afterwards appeared, fractured its skull, and turned the optic nerve on one side. The agony evinced by the animal appeared very great ; it rushed to the bottom, and boring its head into the mud, whirled itself round with such velocity, that it was almost lost to the sight for a short interval. It then plunged about the pond, and at length threw itself completely out of the water on the bank. The Doctor examined it, and found that

a very small portion of the brain was protruding from the fracture in the skull; he carefully replaced it, and, with a small silver tooth-pick, raised the indented portion of the skull. The fish remained still for a short time, and he then put it into the pond again. It appeared, at first, a good deal relieved; but in a few minutes it again darted and plunged about, until it threw itself out of the water a second time. A second time did Dr. Warwick do what he could to relieve it, and again put it into the water. It continued for several times to throw itself out of the water, and at length, with the assistance of the keeper, the Doctor contrived a bandage for the fish, which was then left in the pond to its fate. Upon making his appearance at the pond the following morning, the pike came towards him, close to the edge, and actually laid its head upon his foot. He thought this very extraordinary, but he examined the fish's skull, and found it going on well. He then walked backwards and forwards along the brink of the pond for some time, and the fish continued to swim up and down, turning when he turned; but being blind on the wounded side, it always appeared agitated when it had that side towards the bank.

"The next day Dr. Warwick took some young friends to see the fish, which came to him as usual; and at length it grew so docile, that it came to him when he whistled, and fed out of his hand, while with other persons it continued as shy as usual."

A dainty little fish, often called the Sea Woodcock, goes under the more usual name of the Red Mullet. It is still much esteemed for the table; but the Roman epicures set greater store by it than any other fish. It is not really a Mullet; which, however, is a delicious

fish, frequenting the estuaries of rivers ; but belongs to the great perch family. It was called *Mullus*, in commemoration of the *mulleus*, or red sandal, worn by the kings of Alba, and which was retained by the high officers of the republic and the emperors. Their value in these times increased with their size ; and one of four pounds amounted to a ruinous price. Seneca tells us, that Tiberius found one of four pounds and a half too dear for him, and sent it to the market, where it fetched a large sum. One is reported to have cost sixty-four pounds ; and three were sold for two hundred and forty pounds. They are difficult fishes to rear in confinement, yet, at an enormous expense, the Romans accomplished this object ; and they were kept in trenches placed under their couches, whence they were taken when required, and put into vessels of glass, that the epicures might feast their eyes by seeing them change their bright colours as they died ; they were then carried immediately to the cook, and their flavour was supposed to have deteriorated, if any interval of time elapsed between their death and the fire. The extreme amount of luxury in this respect, however, was for them to die in their famous *garum*. The liver was the part most esteemed, and after that the head.

A large tribe of fishes, known under the name of Flat Fishes, presents us with some of our best food, the Turbot taking the lead. They are singularly formed, for they are horizontally developed, the upper part being covered with a coloured skin, and the under remaining white. Both eyes are generally placed on the upper side, and there are several irregularities of form ; the mouth, for instance, both sides of which are not alike. Rare examples of the eyes being placed on

the under side occasionally occur, and others of the colour extending over both sides. They generally live in deep water. .

The Turbot, to which I have alluded, is chiefly caught in the German Ocean and English Channel, and will not snap at every bait, being particularly averse to anything which is tainted. A prejudice still remains in favour of the Dutch turbot, from which fishery this nation at one time netted £80,000 a year, while the Danes made £15,000 per annum by lobsters, for sauce. The enormous price sometimes given for these fishes, shews the estimation in which they are held. I myself have known nine guineas asked in London, but that was at a time when fish was scarce. Like all flat fishes, they lie close to the ground, swim slowly in a horizontal position; but if alarmed, they turn themselves up, and dart along in a vertical manner. They are very tenacious of life, and go about in companies.

The Sole is perhaps the next in value to the turbot, and is a native of the Baltic, our own seas, Spain, Portugal, and the Mediterranean. Those of Yarmouth are particularly celebrated, and they are chiefly caught by trawl nets, for they will seldom take a bait. There are few weeks in the year when they are not good, and Dr. Mc Culloch, who has made such valuable experiments, concerning the naturalisation of marine fish in fresh water, says, that a sole was kept in the latter for many years, and became twice as thick as those from the sea. They remain in the river Arun, as high up as five miles, the whole year, burying themselves in the mud in cold weather.

The Plaice, so good on the Sussex coast, and which are often speared in the North, also live well in fresh

water. The Flounders, found in the mouths of rivers all round our coast, especially where the bed is soft, wander far beyond brackish water; the little Dab, so fond of sandy soils; the Brill, almost as good as the turbot; and the enormous Holibut; all afford food to thousands. The latter is perhaps the only coarse one among them, and its flesh is dried in slices in Greenland; it eats its flat brethren, and sometimes weighs four hundred pounds.

A long serpentine form, a thick, soft, slimy skin, the scales on which are scarcely to be perceived, and very small gill-covers, are characteristics presented by Eels. Their flesh is extremely nutritious; and they are plentiful in most parts of the world, living in lakes, rivers, and ponds, and are dressed in various ways. Although so numerous in our own country, we derive our chief supply of them from Holland, and they are sold by the pound. Countless numbers migrate to sea in the autumn, and return in the spring, though some are of opinion that they are not the same fishes; they cannot endure cold, and consequently are not found in far northern countries. Many remain in the rivers all the winter through, imbedded in the mud, when they are taken by spearing, almost in a torpid state. They are most irritable animals, and become extremely restless before, and during thunder-storms; yet they are very tenacious of life, and days after they have been supposed dead, perfectly recover their vitality. One was found in a mat of Riga flax, which had been a month out of the ship, and it is unknown how long it had been in its hiding place. It became quite lively on being put into a tub of fresh water. There has been much dispute concerning the birth of eels, whether they

are hatched within the mother, or leave her in the shape of eggs; the latter has been decided by recent observers; but nothing can be more absurd than ancient and modern suggestions concerning this part of their history. They often leave the water, especially when the grass is wet with dew, either to change their habitation, or in search of frogs, etc. Mr. St. John watched a great number of young eels ascending the river Findhorn, swimming against the stream, though they were not larger than a quill. "When they came to a fall," he says, "where they could not possibly ascend, they wriggled out of the water, and gliding along the rock, close to the edge, where the stone was constantly wet from the splashing and spray of the fall, they made their way up till they got above the difficulty, and then again slipping into the water, they continued their course."

Nothing is distasteful to an eel that has, or has had animal life in it; the great thick Glut Eel, with its projecting lower lip, sucks the baits off the night-lines; and ducks' heads and rats have been found in its stomach. The Grig is a small species, particularly nimble in its movements, and has given rise to the saying, "As merry as a grig."

The largest of all eels is the Conger, the flesh of which is coarse, but is eaten by the poorer classes. It is common all round our coasts, but particularly abundant on that of Cornwall. They occasionally measure ten feet in length, and weigh 130 pounds. They are very strong, and will fight fiercely. Otters are their great antagonists, and will generally manage to overcome them.

The *Murænæ*, which are speckled with yellow, brown, and violet, used to be kept in ponds by the Romans,

where they were fattened. A story is told of a master throwing his slaves to them, to be eaten alive. They are beautifully marked, but they are among those animals which convey an idea of wickedness by their appearance. They are found on the coasts of Cornwall, bite very severely, and inhabit various seas, besides the Mediterranean and Atlantic.

The Lampreys, guilty of royal death, inasmuch as Henry I. is said to have eaten too much of them for supper, and brought on a fit of indigestion, of which he died, belong to a whole body of fishes, which, instead of having hard bones like others, have only cartilages, and the gills of some of them are fastened to their skin. Lampreys are among the latter, and the water escapes through holes instead of wide openings; hence the name often given to them, of nine-holes, or seven-holes, according to the number of these openings. Their lips are fleshy and circular, supported by a cartilaginous ring, which is set with strong teeth; and tubercles, covered with bone, furnish the inside of the lips. The tongue also has two rows of small teeth, and acts like a piston, so that my readers will imagine the great power of suction which they possess. When once they fasten themselves to an object, it is scarcely possible to make them let go their hold, even sharp blows being ineffectual. The large ones are inhabitants of the sea, but come far up rivers in the spring to deposit their eggs; and are either stewed or potted. Those of the Severn are thought to be particularly good; but everywhere they have a most unprepossessing appearance.

The lesser lamprey, or Lampern, is also potted and highly valued. Mr. St. John one day amused himself by watching two of them, or a still smaller species, as

they busied themselves “in making little triangular heaps of stones, about as large as a pea. When they wished to move a larger stone, they helped each other to roll it; occasionally they left off to rest, and then returned to work with fresh vigour, occasionally bringing their materials a distance of two feet, against the current, and moving them to the place with great difficulty.”

A familiar specimen of cartilaginous bones is exhibited by the Skate or Ray, a large flat fish, with a pointed nose, coming far beyond the mouth, and a long tail, covered with spines. There are several species, all of which are eaten, and go by the names of Thornbacks, Maids, etc. The nostrils and mouth are on the under side, and the eyes on the upper; they defend themselves with their tail, which they lash about, and with which they often inflict very severe wounds. They eat crabs, and any sort of fish and mollusca; their strong jaws cracking the shells with ease. The females are larger than the males, and many of those little blackish, horny cases, which we find floating upon the sea, looking like hand-barrows, are the cases for their eggs. Shark's eggs are deposited in the same sort of covering, and all are called purses. The common skate sometimes weighs two hundred pounds; their flesh is best in autumn and winter, and more esteemed in France than in England.

Of the different species, I shall only particularise three more; one of which is the Thornback, called *the Ray*, in Cornwall, the back of which is covered with spines of different sizes, like nails, which have a round bony base, set into the flesh; and one of the others, the Sting Ray. Mr. Couch says, “when seized or terrified, these last twist their long, slender, and flexible tail

round the object of attack, and with their serrated spine tear the surface, lacerating it in such a manner as to produce violent inflammation. Sir Joseph Banks speaks of a ray, which was so large that it required seven oxen to drag it along, and which he saw in the West Indies. It was probably the same as that mentioned by a Mr. Mitchel, of New York, the flapping of whose fins sent the spray to a height of fifty feet, and was supposed to weigh five tons. The measurement between the tips of the fins was eighteen feet, and it was fourteen feet from the snout to the end of the tail. One even larger was killed off Kingston, in Jamaica, in the presence of Lieutenant Lamont. I do not suppose any one would have liked to eat a part of either of these monsters; but I have given them a place here, as being so closely allied to those which are edible.

I now pass on to the Sturgeon, the head and shoulders of which are delicious food. They also are cartilaginous fishes, and grow to a large size, often weighing between four and five hundred pounds. They are not plentiful in Great Britain and Ireland, yet are frequently found. In former times all were reserved for the Sovereign; but now only those within the jurisdiction of the Lord Mayor are considered as royal fishes, and the surrender of them is not enforced. The best isinglass is made from the thick membrane which forms their air bladder. The roes or eggs, are made into caviar, and the flesh, besides being eaten fresh, is salted and pickled. The principal locality whence the Russians derive their caviar is the Caspian Sea, where the sturgeon is very plentiful. They are long, sharp-nosed fishes, having five rows of large bony plates with spines in the middle, which point backwards, on their back and sides.

I now come to the terrible monsters of the deep, in the shape of Sharks. They inhabit all large seas, are cartilaginous fishes, and their mouths being placed considerably under their muzzles, they are obliged to turn very much on one side when they seize their prey. They even attack whales with success, and the Greenland Shark, says Dr. Scoresby, after being run through with a knife, will return to his banquet.

On my first voyage I most anxiously desired to see a shark; and an immense chain and hook were accordingly hung out at the stern of the vessel; the latter baited with a piece of salt pork. Several followed us, but did not swallow the pork. One, however, frequently seemed tempted, but was too wary to be in a hurry; I watched him from one of the stern windows, and one day as he was coquetting with it, and just turning up his mouth, I contrived to jerk the hook into it, and he was secured. I ran upon deck to announce my success, and most of the men rushed aft to haul up the prize; a boat was lowered to assist below, and the monster was laid on the deck. He measured nearly twelve feet, and as he lashed his tail about, the ship quivered as if she had fired a broadside. He was soon dispatched, cut up, his formidable jaws taken out and hung up to whiten; his back bone cleaned, to be made into "walking canes;" separate pieces reserved for rings for the men's handkerchiefs; and favourite parts selected for drying over the caboose fire, or fresh steaks for dinner. Some of the crew regretted that they had not found any treasures in his stomach, that he might have swallowed, but they enjoyed their steaks, or said they did; to me this seemed impossible; one taste being quite enough to create disgust.

Sharks abounded at Cape Coast, and one day, as I stood at a window commanding a view of the sea, I saw some of the inhabitants of the town bathing, and the sharks hastening to seize upon them; they being visible from always swimming with part of their dorsal fin out of water. I sent to warn the men of their danger, and all came ashore except one, who laughed at the caution of his companions. A huge shark was rapidly approaching, and I sent my servant again, and this time armed with half a bottle of rum, to bribe the man to save himself. It was too late, the murderous creature had seized him, and the water around was dyed with his blood. A canoe was dispatched to bring him ashore, but a wave threw him on to the beach; and it was found that the shark had taken the thigh bone completely out of the socket. The man, of course, expired in a very few minutes. Accidents were often happening, and always fatal, and yet the negroes, who seldom think beyond the present moment, could not be dissuaded from bathing. A man walking in the sea, up to his knees, was dragged away by one, almost before my eyes.

In Navigator's Islands, the teeth of sharks are fixed on a rib of palm leaf, by means of strips of bark and glue, and thus make formidable weapons. Not less than ten thousand sharks are annually destroyed in Kingston harbour, and I presume, that every traveller across the tropical seas, has some adventure to relate of their power and voracity.

Some years ago, what is commonly called a Basking Shark, and which is not as voracious as others of his family, was cast ashore dead, in the neighbourhood of Brighton. It was a glorious opportunity for comparative anatomists, and one of our most eminent men

proceeded to work; he made a door in the side, by which he entered into the body, and began to cut away. In a short time the oil accumulated all round him, but while it covered only his feet he did not heed it. It, however, soon reached above his knees, and was rising so rapidly that he thought it prudent to make his exit, that he might not expose himself to the novel death of being drowned in shark's oil. What his clothes were, and even his skin and hair, for some time—it would be difficult to describe.

The Hammer-Headed Shark stands alone in creation, as far as we know, in its formation. Its head is flattened horizontally, and branches out on each side; so that it forms a straight line at the end, and two square appendages on each side, at the extremities of which the eyes are placed. Captain William Allen, commander of the *Wilberforce*, in the Niger Expedition, says, two followed his vessel for some time, to the dismay of the superstitious among the sailors. "It is," continues he, "certainly one of the most singular and horrible looking of fishes. As the animal, in its zigzag movements, slightly raises one side, and depresses the other, the eye has a most revolting aspect . . . its appearance is most repulsive."

When young, and about a foot and a half long, the natives on the African coast think them very good eating; and when full grown they are not as dangerous as others, because their formation prevents them from being equally active; their omnivorous propensities, however, are equally developed.

The Barracuda of the Bahamas and West Indies, often more than ten feet long, is almost as much dreaded as the shark; and is said to be particularly greedy of

human flesh. In one respect it is worse than the shark, because noise and disturbance will not frighten it away. It swims with great force, and is formidable to other fishes as well as men. The poorer inhabitants eat its flesh; but with much caution, as it is at times poisonous. If death do not result, pains in the joints arise; the hair and nails peel off; and these symptoms will continue for years. Another remarkable circumstance is, that if the flesh be salted, no evil will arise from it.

In some of the rivers and lakes of the continent of Europe, is a fish which rivals a shark in its destructive propensities. It is a *Silurus*; and other species exist in tropical rivers. It is said to devour all fishes except the perch, of whose spines it is afraid; it also devours water fowls, and does not spare the human species. One was taken at Thorn which had a child in its stomach; and in Hungary, it is not uncommon to hear of children and young girls being devoured by it. It is even reported, that a poor fisherman caught one on the frontiers of Turkey, in whose body he found that of a woman, with her ring, and a purse full of gold.

These formidable creatures are also described as being cunning enough, when inundations have taken place, to shake the trees and shrubs with their tail, on which terrestrial animals have taken refuge, and so, causing them to fall, secure them as their prey. Their flesh is quite white. The people of Hungary dry the fat parts, and keep them as a dressing for their vegetables; they burn their oil in lamps, make glue of the bladder; and the Russian and Tartar peasants dry the skin, and use it instead of glass, for windows.

The Sword-fish inhabits the Mediterranean, and the eastern parts of the Atlantic; and it has been found in

our own seas, and the Baltic. The pursuit of them is a miniature representation of that of the whale, and the fishermen follow them for hours before they can effect their capture. The Sicilian fishermen are said to have a curious superstition concerning them, which is, that if they sing a certain Greek phrase, it attracts them towards their boat; whereas, if they pronounce a single word of Italian, they plunge into deep water, and are not seen again. The flesh of the young is excellent eating, but an old fish resembles bad, coarse beef. The prolongation of the muzzle into the long bony process to which it owes its name, of necessity makes it a formidable enemy, but it constantly accompanies the tunny, and apparently on friendly terms. The beak, as it is called, of a species near it (the Voilier, or *Histiophorus*), is much larger, attaining four feet; and the whole fish is beautifully coloured. Both of them have been known to run these weapons into ships with immense force, so as to make the vessel reel as if struck upon a rock, and had not the sword, or beak, broken off and remained in the wood, leakage must have ensued, and perhaps loss of life. A proof of this exists in several museums, where the piece of the vessel has been preserved. The natural explanation of this is, that they take the vessels for whales, or other large cetaceous animals, which are their natural enemies, and make the first attack.

Several fishes possess a large portion of electricity, which they are able to exercise for their own benefit; either for offence or defence. The chief of these are, the Torpedo, a marine fish of the ray kind, and the *Gymnotus*, which is a species of eel. The first are large, and of rounded form, with a long tail, on which the fins are placed. Their electrical apparatus is formed

of small membranous tubes, looking like a piece of honeycomb, sub-divided by horizontal membranes into little cells, full of mucus, and communicating with certain nerves. They can give a shock at will, and it is supposed that they use their power not only as a means of defence, but that they stun their prey with it. Mr. Couch suggests that they thus render their victims more apt to decompose, and so accommodate them to their very short intestine, which could scarcely perform a long process of digestion. Those parts connected with the brain and heart alone give the shock. The fish was recommended by ancient physicians, as being good for headaches. It has been found on the British coasts, but generally lives near the shores of large oceans.

The Gymnotus was found in South America, by Baron Humboldt, and its electric organs lie along the back, in two sets; the little cells of the apparatus are filled with a jelly-like substance, and communicate with many nerves. When the natives wish to catch wild horses, they drive them into the streams frequented by these eels, where they are frightened and easily secured, though occasionally they die, either from the violence of the shocks, or their own alarm. One of these eels was brought alive to the Jardin des Plantes, in Paris, where it was constantly visited, and so often excited to give shocks, that the poor fish's health visibly deteriorated. More caution was then observed; but during the time of its existence, a paragraph appeared in the English papers, saying, that several learned professors had been injured by it; and, in fact, one of great eminence had died in consequence. Seven gentlemen had received a shock at one time, and all had been

inconvenienced for some hours; but there was no other foundation for the story.

One evening, after the eel had exercised its power very frequently, and appeared to be exhausted, the keeper in whose charge it was, wished to move it, tub and all, up a short flight of stairs. He could not carry it without help, and called an assistant to take the opposite side of the burthen. The man hesitated; but when assured that nothing was to be feared while the fish was in that state, he complied. Whether it was alarm, or resentment at being moved, was not, of course, known, but just as the men reached the last stair but one, the eel seemed to concentrate all its powers, and gave a furious shock. This so frightened the assistant that he let go his hold and fell to the bottom, followed by the tub and its contents. It required some courage to replace the eel in its dwelling, and the man was laughed at, but few would have shown more nerve; in fact, the arms which held the tub were paralysed by the shock.

The power of flight for a short distance has been granted to several fishes, such as Gurnards, or Sea Swallows; but the one which is most endowed in this respect, is the little *Exocætus*, the Flying Fish, as it is always called. Contrary to the usual opinion, that their flight is merely a leap out of the water, to escape a dolphin, bonita, or some other enemy, I am of opinion that they often rush out of the water for the sake of enjoyment, and that they contract their pectoral fins (with which they fly), and expanding them again, acquire fresh impetus. When I used to see so many, I watched them, and formed this conclusion; but when I returned to Europe, was told that I was wrong, and held my tongue. I now, however, supported by Baron

Humboldt, M. Valenciennes, and others, again express my conviction. They always appear when a fresh breeze agitates the water, as if their first impulse must come from the dancing waves; they announce themselves with a prolonged sound of *oush-sh-sh*, and their blue and glittering bodies, and their numbers, make them most welcome in a monotonous sea voyage. They sometimes fall on deck, and afford fresh and grateful food; though there is not much flesh upon them. Lanterns are hung up at night to attract them. As they follow the Gulf Stream, they are sometimes found as far north as Newfoundland, but they inhabit most seas, and present several species.

In other habits, besides flying, we find fishes approaching those of birds. The Doras is a sensible fish in many respects, for when the ponds dry up where he lives, instead of burying himself in the mud as others do, and being eventually devoured by birds of prey, he takes to his heels, and runs all night sometimes, to find other and more plentifully supplied habitations.

How these fishes imitate birds, is by making a regular nest, in which the eggs are deposited, looking like a little flat cushion, and they then cover them up. The nest is formed of leaves, and sometimes a place is hollowed out of the beach to receive it. Both father and mother watch this nest with the most devoted attention, and defend it with courage. The doras is called in its own country, "Alligator Killer," because, when these great reptiles swallow them, their spines lacerate their throats so severely that they frequently die from the injury.

There are some other fishes which make nests and

watch over their eggs, such as the Gobies, and several others; which walk on land, climb rocks, and even trees. The Anabas is one of them, and Lieut. Daldorf, a Danish officer, on service at Tranquebar, took one from a palm-tree five feet above the water, and climbing the trunk very fast, by means of its tail and spiny fins. They have an apparatus in their heads resembling a curled cabbage leaf, which it is supposed retains water for a long time, and they are met occasionally walking along at such distances from water that the natives think they have fallen from heaven.

Those fishes of foreign seas called Chironectes, no doubt have, like many others, less scientific and local names; but as these are not known, and if known, might not be more familiar, I am compelled to take the only appellation by which naturalists know them. They are also walking fishes, and, puffing themselves out with air, proceed with some rapidity over the mud; and the manner in which their pectoral fins are placed on (what I can only make familiar by calling it) a stalk gives them an air of going along on their elbows, while their ventral fins are placed so forward, that they look like the hind feet coming foremost. The opening of their gills is a small round hole in the angle of their pectoral fins.

I have already alluded to the sounds made by fishes, and the impossibility of ascertaining how they are produced. Passing over the Growlers, so called on account of the noise which proceeds from them, and which I cannot call utterance, I pause at the most remarkable of all, the Pogonias, or, familiarly speaking, the Drum. Lieut. White, of the United States navy, relates, that being at the mouth of the Camboja river,

his crew and he were very much astonished at extraordinary sounds, which were heard round the bottom of their vessel. They were like the bass notes of the organ, bells, guttural cries of frogs, such as might be fancied to proceed from an enormous harp, and the vessel might be said to tremble. These noises increased, and a universal chorus was formed all round the ship. They abated as they mounted the river, and then ceased. The interpreter on board assured them they were produced by a troop of fishes, of a flattened, oval form, which have the faculty of strongly adhering to different objects with the mouth.

M. de Humboldt, when in the open sea, about seven in the evening, in company with those around him, heard a noise like that of drums beating in the air. At first they were attributed to breakers, but soon they appeared to come from the vessel itself, about the poop. They then resembled the bubbling of a liquid while boiling, and it was feared that the vessel had leaked; all, however, was right, and about nine o'clock the sounds ceased.

According to Mr. Mitchell, the drums frequent the bays of Long Island in numerous troops; and they are idle, stupid fishes. The noises above described were not exactly alike, but are attributed to the same family.

Among those fishes which practise curious artifices in order to procure their prey, there are none more striking than the Fishing Frogs, or Anglers. They, too, have their pectoral fins set upon a stalk, and their head is flattened, and out of proportion large. They have a wide mouth; the opening to their gills is like that of the chironectes, and their eyes are placed near

together. They have altogether so hideous an appearance, that it is not extraordinary many tales should have been invented concerning them. The most remarkable part of their outward appearance I give in Mr. Yarrell's words: "Upon the head are two slender, elongated appendages, the first of them broad and flattened towards the end, and having, at their dilated part, a shining, silvery appearance. These elongated filaments are curiously articulated at the base, with the upper surface of the head. They have great freedom of motion in any direction, the first filament more especially, being produced by numerous muscles, amounting to twenty-two. This first is also articulated by a process resembling two links of a chain, by which universal motion is obtained; the second is more limited in its action, and appears, except as far as flexibility may assist it, to be only capable of being brought forward or backward. These elongated shafts are formed of bone, covered by the common skin; and as the soft parts are abundantly supplied with nerves, they may also serve the angler as delicate organs of touch. While couching close to the ground, the fish, by the action of its ventral and pectoral fins, stirs up the sand or mud: hidden by the obscurity thus produced, it elevates these appendages, moves them in various directions by way of attraction as a bait; and the small fishes, approaching either to examine or to seize them, immediately become the prey of the fisher."

Mr. Couch speaks of an angler which seized a conger eel that had taken the hook; but after the latter had been engulfed in the enormous jaws, and perhaps stomach, it struggled through the gill-aperture

of the angler, and in that situation both were drawn up together. "When taken in a net," Colonel Montague tells us, "they generally devour some of their fellow-prisoners. They are frequently from three to four feet long, and have been known to reach even ten feet. They are found in the Mediterranean, our own, and various other seas. Some fishermen suppose that they overcome sharks, and, therefore, when they take them, set them at liberty on that account."

The Chelmons, with their long slender muzzle, their vertical profile, and cavity in front of their eyes, and the Archers, or Toxotes, with their flat head, both feed on insects; and in order to secure them, skillfully shoot forth drops of water, which bring them down, even though they may be three feet or more from them, and never fail in their aim. The Javanese keep them in their houses, and supply them with insects attached to threads and sticks, that they may divert themselves with their manœuvres. They inhabit the Indian and Chinese seas.

The hideous fishes which now come before me, belonging to different families and genera, and each more ugly than the other, can scarcely be described by words, and nothing but the pencil of a clever artist, with the living fish before him, could give an adequate idea of their strange appearance. The Uranoscope is perhaps the least so. It has a large square head, flattened above, at the end of which the mouth is vertically placed; and the eyes are set in the middle of the upper side, in such a position that they can only look upwards. On their shoulder is a spine, which serves as a weapon; and a long, narrow, fleshy shred is placed before the tongue, and thrust forth at

pleasure, in order to attract insects as its owner lies in the mud or sand. One species lives in the Mediterranean, and was recommended to sick persons by Hippocrates. The Indian species, to add to its singularity, has a long thin filament hanging from its chin.

The next increase of ugliness is to be found in the *Batrachus*, with a head similar to that of the uranoscopus. Their large mouth is surrounded by shreds of skin, the pectoral fins are set upon stems, and these fishes inhabit the two great oceans. One species is called the toad-fish, in America; and the liver of that at Surinam is said to be a deadly poison.

The *Scorpenæ* have a thick, spiny head, and a soft, spongy skin; fleshy shreds often proceed from various parts of them; the colours of some are brilliant, and they live a long time out of the water. The form and number of the shreds vary to infinity, both in position and size; and nothing can be more fantastic than those from the Indian seas.

Still more frightful are the *Synauceiæ*. The head is as wide as it is long, the body is like a great thick club; the back is covered with warts, each terminated by a little knob; the eyes are very small; the lips are furnished with little threads or filaments; and the Malays call one of their species the Sorcerer. That of the Isle of France is looked upon rather as a reptile than a fish, and the fishermen fear the wounds made by their spines more than they do those of vipers and scorpions. Not that they are really poisonous, but they penetrate so deeply, and are so thickly covered with mucus, that the lacerated flesh becomes highly irritated.

The *Pelor* forms the climax of this ugly group; and nothing but the idea of deformity can be awakened by

them. Their head seems to be crushed in front, their eyes project, and are set close together; their dorsal fin has long, separate spines, and their body has no scales. They all come from the Indian Ocean; and it would seem as if nature had intended that their hideous appearance should frighten all enemies, or paralyse those on whom they wish to prey.

On the Shark which I caught, were a number of Sucking-fishes, having a curious apparatus by which they attach themselves to objects in a manner difficult to be dislodged. It consists of a number of cartilaginous plates, fringed with spines at one edge, and moveable, so that they can fix them closely on to what they please, but for what reason is not ascertained. Some say for protection, others for conveyance. It appears to me most likely to be the former, because they adhere to fixed objects just as strongly as to those which are in motion. Other suckers have this disk under the body, and so constantly adhere to other substances, that it is supposed they could not live without doing so. One, called the Sea Owl, is an extraordinary looking animal, with a body out of proportion thick and deep, to its length. It has been known, when taken up by the tail, to raise a pail holding some gallons of water; it is brilliantly coloured, is a northern fish, and often brought to table in Scotland.

Another, called the Sea-Snail, from the slimy matter which always covers its body, is from the same locality, and is found under stones. It is only the first-mentioned sucker which turns itself upside down when it adheres; a strange mode of existence, for it passes its reversed life attached to other fishes.

It is in some countries made to catch what may be required by being thrown upon them, when, by means of strings, both are drawn back together, to which fact I have already called attention.

Of all the strange localities for fishes, we should least expect to find them in volcanoes; but there are five of the "burning mountains" of the Andes which have sent them forth alive from their craters, or from cracks, more than five thousand yards above the level of the sea. Cotopaxi ejected such a number, that a foetid odour was spread through the neighbourhood. Imbaburu threw many thousands into the environs of the town of Ibarra, in 1691, and several times since that period. The pestilential fevers which scourged these countries after the eruptions, were entirely attributed to the miasma produced by the dead fishes, and when the summit of Cargueirazo fell in, thousands of fishes were vomited from the sides in the midst of smoking mud. "What currents of water, what subterranean lakes exist in the caverns of these mountains? How can the water at so high a temperature contain sufficient air for the fishes to live in it? How is it that animals of such a nature are not cooked, as they pass through those columns of smoke which encircle the masses of mud thrown out during the eruption?" are questions asked by M. de Humboldt, but which not even he has been able to answer.

They either belong to, or will probably take an independent place close to, the family of the Siluroids, already mentioned in this work, and live in the elevated lakes and streams of the neighbourhood. They were made known to us by the great traveller just mentioned, by M. Boussingault, and lastly, by Mr. Pentland. The

Astroblepus, one of the genera, has a wide, flattened, obtuse head, large lips, fixed tongue, double nostrils, very small eyes on the upper surface of the head, set very far back, and always looking upwards; the body without scales, and covered with mucus. All have singular forms, and are esteemed as food by the inhabitants of the neighbourhood.

One order of fishes, instead of having gills in a series, like the teeth of a comb, has them gathered into small round tufts, set in pairs along the bony arches which support them, and the large gill cover is fastened down by a membrane, which only leaves a small hole for the egress of the water. The body of the fishes is enveloped in large scale-like shields; they are generally small in size, and from having so little flesh, dry easily. Those called pipe-fish have the muzzle prolonged into a tube, and long, slender bodies. They abound in most seas, and are remarkable for their attachment to their young, for which they are provided with a pouch, as a place of retreat in cases of danger. One species is so slender and pliant, that it has received the name of the Snake Pipe-fish.

Belonging to the same family is the *Hippocampus*, which dries into a shape very much resembling that of a horse without legs, hence they are called sea-horses; they abound in European and Indian seas, and there are some in New Holland of still more extraordinary appearance; for they have a number of leaf-like appendages on different parts of the body. They lay hold of objects with their tail, and they move their eyes independently of each other. Some are so small as to be found curled up in oyster shells.

Among the numerous modes of defence provided for

fishes, is the power given to some of them to puff themselves out with air like little balloons; at which time, the under part being the lightest, they turn upwards, and float passively on the top of the water; they are not, however, to be surprised in this condition, for they are covered with spines, which, by the stretching of the skin, stand up at right angles, and the whole fish presents a prickly surface. Sounds come from their stomachs when they are taken. Their jaws are provided with an ivory substance instead of teeth, or rather, their teeth are all joined together. The Tetraodons have two of these joined teeth above, and two below, and are not always covered with spines; they are, however, sometimes beautifully coloured, and one which I had at St. Jago, one of the Cape de Verde Islands, was of a brilliant rose-colour, marbled with black.

The Sun-fish, so named from its circular form and shining appearance, looks as if its body had been suddenly cut off, and a short petticoat put on to hide its deformity. They are dull, stupid fishes, and like to float on the surface of the water. They boil to a jelly, and make excellent glue. All these are found in various parts of the ocean.

The File-fishes are covered with hard scales, which join each other at the edges, and they have five spines on the back for a first dorsal fin, which lie down in a groove provided for the purpose. A great many are found in the seas of the torrid zone, near rocks which are even with the water's edge; and they shine with the most brilliant colours. They are said to feed on the Coral insects.

Instead of scales, the Coffers, or Ostracians, have

regular pieces of bone, fastened together at the edges, so as to form an inflexible covering for the head and body, leaving only the tail, the fins, and the lips moveable.

Perhaps the most beautiful of all fishes in respect of colour, is the *Coryphæna*, or Dolphin of the ancients. It is a large fish, very rapid in its movements, during which its glancing tints are the most splendid that can be conceived, and among all the bright flowers and birds that I have seen, there has been nothing equal to them. One was caught on board the vessel in which I went from Lisbon to Madeira; the changes which it underwent in dying overcame humanity; and it was suffered to expire, instead of killing it and shortening its sufferings. The gold, the violet, the ultramarine blue, the crimson and the orange, all prevailed in their turns; and the luxurious Romans were almost excused, in my opinion, for their frequent indulgence in this spectacle.

Ancient authors shew us, that more was known in their time than in the present concerning the habits of fishes, and doubtless many a legend and assertion had its foundation on some truth now lost to us. In many instances the legend has been preserved, and strikes us as absurd or extraordinary; nevertheless, it is well to hold it in remembrance, if it be only to mark the amount of embellishment bestowed in a more poetic age, as well as to establish how much of reality it may contain. I therefore now take some of these at random.

There is a little fish, the *Aspro*, which abounds in the Rhone, with rough scales, now called the *Wizard* by the fishermen, but which formerly bore the more

appropriate name of *Perca Aspera* (Rough Perch); and the peasantry on the borders of that river always declared their belief, that it fed upon the grains of gold which it picked up in the sand of the river.

A species of *Serranus*, named *Anthias* by the fishermen of the Chelidonian islands, was taught by them to eat from their hands; for which purpose they for several days presented themselves in their boats, dressed in the same manner, and offered them bread. After a while the fishes would take this bread from them. A hook was then introduced, and the fish was taken, but not secured, as its companions instantly came, and with the sawlike spines on their back cut the cord which was attached to it. They described it as having a body as beautiful as a flower, and that in its enormous stomach lay a blue stone, marked with golden stars, which, bathed in the blood of owls, had the property of making the possessor invisible.

There is a *Sciæna*, in which the bones of the ear, vulgarly called the stones, are unusually large; and, of course, they were objects of curiosity to those who knew not what they were. They were called the stones of the head, and imaginary virtues were attributed to them. Under the name of colic-stones, they were worn round the neck, set in gold, to prevent or cure this disorder; but to be efficacious, they must have been received as a gift, for they lost their virtue if purchased.

The *Sargus* of the Mediterranean and coasts of Spain and Portugal, was said to attach several wives to him, and to defend them against all intruders, in the most furious manner. The most curious part of their history was their friendship for goats; directly one appeared

on the shore, these fishes rapidly swam towards it, evincing their joy by vigorous leaps. A fisherman, covered with a goat-skin, and wearing its horns, who threw into the water a little flour steeped in goat's broth, attracted and secured as many as he could desire to have, taking them with the hand, but being careful to lay their spines down close against their body, for fear of wounding himself. Now they are caught with a pickled anchovy put on a hook. They were said to live in submarine caverns, into which the sun only penetrated by small openings. They were very ingenious, according to ancient authors, in trying to break the line which held them. They closely followed the red mullet, swallowing the alimentary particles stirred up in the mud by that fish.

"The Indian seas," says Pliny, "produce whales which cover four acres; and saw-fish of two hundred cubits; while eels of thirty feet are found in the Ganges. It is chiefly at the time of the solstices that these monstrous beings appear. Then the winds, the storms, the tempests, rushing down the mountains, agitate the waters to their deepest parts, and roll these enormous animals upon the waves, having raised them from the deepest abysses. The tunnies were sometimes found there in such numbers, that the fleet of Alexander the Great was ranged in order of battle against them, as against an enemy's army. Separately the vessels could not open a passage among them; noises, cries, and blows, were unavailing; the most fearful disturbance did not alarm them, and, in order to disperse them, it was necessary to overwhelm them.

"In the Red Sea," continues the same author, "is a

large peninsula named Cadara. By its projection into the sea, it forms a vast gulf, which King Ptolemy took twelve days and nights to traverse with oars, for no wind is felt there. In this calm and tranquil spot, fishes grew to such a size that they became an inert mass. Those who commanded the fleet of Alexander, stated that the Gedrosos, who inhabit the borders of the river Arabis, made doors for their houses with fishes' jaws, and girders with their bones, which were forty cubits long. Whole flocks of marine animals came on land to feed on the roots of shrubs, and then returned to the sea; and some with horses', asses', and bulls' heads, grazed upon the young crops of grain." The contrast this forms to the present knowledge and condition of the Red Sea, will, I think, be amusing to the Indian traveller.

Auguries were formerly drawn from fishes; and these animals were supposed to have a knowledge of the future. During the war with Sicily, Augustus was walking on the shore, when a fish threw itself out of the water, and fell at his feet. It was at the time that Sextus Pompeius, proud of his naval victories, declared himself to be the son of Neptune. When the soothsayers were consulted as to the meaning of this occurrence, they replied, that those who then held the empire of the sea would be under the feet of Cæsar.

The Scarus had the reputation of ruminating, and, in fact, when masticating the sea-weed, it does move its jaws, in the manner of cows, etc.; but then it was said to eat grass, and never devour other fishes. It was reckoned the most delicate dish that could come to table. Its intestines cooked with the fish were said to create appetite in the manner of oysters.

Eels were supposed to live eight years, and to exist eight days out of water, if the wind blew from the north; but not for so long a time if it came from the south. They were not thought to be able to live through a winter, if they were not placed in clear and abundant water. They were, therefore, mostly taken when the Pleiades rose, and the waters of rivers were troubled. They were stated to feed during the night, and to be the only fishes which did not float after death.

Every year, in October, when the lake Beonaco, near Verona, felt the influence of the autumnal constellation, the eels collected together, near the place where the river Mincio leaves that lake, and masses of a thousand rolled over each other, were found in the enclosures formed in the river for the purpose of containing them.

The Gobies were said, by Aristotle, to be the only fishes which made a nest, and which was watched by the male after the eggs were deposited. However, our extended knowledge has increased the list of those who do this. The Athenians cooked the fry of the spotted goby, calling it "the unborn;" and when it was not to be had, endeavoured, by various contrivances, to imitate it. They, and even Aristotle, adopted the belief that it was generated by rain, mud, or the foam of the sea. To this day, the fry of the *Atherina*, which hangs together in masses, is boiled in milk, and eaten by the inhabitants of the Mediterranean shores, who believe it to be a spontaneous generation.

As one of my chief objects in writing on natural history, is the setting forth of God's great goodness and power, I will conclude the present work with an observation on that species of scarus, which is called the Parrot-fish, in consequence of its varied and beautiful

colours ; and which appears to me, with quiet and comparatively small workings, to influence the destiny of man. These fishes make no display of their labours, but silently and effectually prevent the baneful extension of those dangerous coral reefs, to whose progress there seems to be no other check. They are incessantly breaking up the new layers with their jaws and teeth, of immense strength ; in fact, browsing upon coral, " digesting," says Dr. Carpenter, " the animal matter it contains, and setting free the carbonate of lime in a chalky state." Such are the simple, yet effectual means, used by Almighty wisdom, and such are a few of the claims which fishes lay to our interest.

THE END.

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